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Budget

SMITHSONIAN INSTITUTION

Budget Justifications for Fiscal Year 1981



Submitted to the Committees on Appropriations

Congress of the United States

January 1980

SMITHSONIAN INSTITUTION

BOARD OF REGENTS

Under Separate Boards of Trustees:

JOHN F. KENNEDY CENTER
FOR THE PERFORMING ARTS

NATIONAL GALLERY OF ART

WOODROW WILSON
INTERNATIONAL CENTER
FOR SCHOLARS

THE SECRETARY *

AUDITOR _____ UNDER SECRETARY *

BOARDS AND COMMISSIONS

Archives of American Art
Board of Trustees
Board of Fellowships and Grants
Cooper-Hewitt Museum
Advisory Council
Freer Visiting Committee
Hirshhorn Museum and
Sculpture Garden
Board of Trustees
Horticultural Advisory Committee
Joint Sponsoring Committee for
the Papers of Joseph Henry
Museum of African Art
Commission
National Air and Space Museum
Advisory Board
National Anthropological Film
Center Advisory Council
National Armed Forces
Museum Advisory Board
National Board of the
Smithsonian Associates
National Collection of Fine
Arts Commission
National Portrait Gallery
Commission
Smithsonian Astrophysical
Visiting Committee
Smithsonian Council
Women's Committee of the
Smithsonian Associates

Coordinator of

PUBLIC INFORMATION*

Office of Congressional Liaison
Office of Public Affairs
Office of Special Events

Director of

MEMBERSHIP AND DEVELOPMENT*

Development Office
Smithsonian National Associate
Program
Smithsonian Resident Associate
Program

GENERAL COUNSEL*

TREASURER*

Accounting Office
Office of Grants and Risk Management
Investment Accounting Division
Business Management Office
Concessions
Mail Order Division
Smithsonian Museum Shops

Assistant Secretary* for SCIENCE

Chesapeake Bay Center for Environmental
Studies
Fort Pierce Bureau
National Air and Space Museum
National Museum of Man
Center for the Study of Man
National Museum of Natural History
Office of Biological Conservation
Office of Fellowships and Grants
Radiation Biology Laboratory
Smithsonian Astrophysical Observatory
Smithsonian Tropical Research Institute

Assistant Secretary* for HISTORY & ART

Archives of American Art
Cooper-Hewitt Museum
Freer Gallery of Art
Hirshhorn Museum and Sculpture
Garden
Joseph Henry Papers
Museum of African Art
National Collection of Fine Arts
Kew-Neck Gallery
National Museum of History and
Technology
National Portrait Gallery
Office of American and Folklife
Studies

Assistant Secretary* for MUSEUM PROGRAMS

Conservation Analytical Laboratory
National Museum Act
Office of Exhibits Central
Office of Horticulture
Office of International Activities
Office of Museum Programs
Office of the Registrar
Smithsonian Archives
Smithsonian Institution Libraries
Smithsonian Institution Traveling
Exhibition Service

Assistant Secretary* for PUBLIC SERVICE

Anacostia Neighborhood Museum
Division of Performing Arts
International Exchange Service
Office of Elementary and Secondary
Education
Office of Smithsonian Symposia and
Seminars
Office of Telecommunications
Smithsonian Exposition Books
Smithsonian Institution Press
Smithsonian Magazine
Visitor Information and Associates
Reception Center

Assistant Secretary* for ADMINISTRATION

Office of Computer Services
Contracts Office
Office of Equal Opportunity
Office of Facilities Services
Office of Facilities Planning and
Engineering Services
Office of Plant Services
Office of Protection Services
Management Analysis Office
Office of Personnel Administration
Office of Printing and Photographic
Services
Office of Programming and Budget
Office of Supply Services
Travel Services Office

* Secretary's
Executive Committee

SMITHSONIAN INSTITUTION

FISCAL YEAR 1981 ESTIMATES OF APPROPRIATIONS

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GENERAL STATEMENT

Organization and Performance

Founded in 1846, the Smithsonian Institution is an independent, federal establishment devoted to public education, research and national service in the arts, sciences and history. Centered on the Mall in Washington, the Institution operates major facilities and activities throughout the country and overseas. It is one of the world's leading research centers and encompasses the world's largest museum complex, attracting approximately 27 million visitors annually to its museums, galleries and zoological park. Additional millions also view Smithsonian traveling exhibitions, which appear across the United States and abroad, and the annual Folklife Festival. As custodian of the National Collections, the Smithsonian possesses more than 78 million art objects, natural history specimens and artifacts. These collections are displayed for the enjoyment and education of visitors and are available for research by the staff of the Institution and by hundreds of visiting students, scientists and historians each year. Other significant study efforts draw their data and results directly from terrestrial, marine and astrophysical observations at various Smithsonian installations.

The Smithsonian complex presently consists of 12 exhibition buildings in Washington, D.C. and New York City in the fields of science, history, technology, and art; a zoological park and an animal conservation and research center at Front Royal, Virginia; the Anacostia Neighborhood Museum, which performs research and exhibit activities in a low income area of the city in cooperation with the community; a preservation, storage, and air and space-craft display facility at Suitland, Maryland; a conference center at Elkridge, Maryland; two natural preserves, in Panama and on the Chesapeake Bay; an oceanographic research facility in Fort Pierce, Florida; astrophysical stations in Cambridge, Massachusetts, Mt. Hopkins, Arizona, and elsewhere; and supporting administrative, laboratory and storage areas.

Smithsonian Goals

The goal of the Smithsonian Institution is to promote the increase and diffusion of knowledge. To accomplish this goal, the Smithsonian conducts a broad variety of programs alone and in cooperation with other institutions, universities, and Government agencies in the United States and abroad. These programs include:

- Collections management: The Smithsonian Institution has the legal responsibility (20 U.S.C. 59) to serve as the official repository of the National Collections which contain more than 78 million art, technological, and cultural history objects, and natural history specimens and artifacts. The responsibility involves the acquisition, documentation and conservation of these materials along with detailed record keeping or cataloguing, regular inventories, and storage or display in secure and atmospherically controlled environments.
- Basic research: Increase of knowledge is accomplished through basic research. As an independent federal establishment, the Smithsonian conducts a broad range of scientific and scholarly research, often in cooperation with other institutions, universities and Government agencies. As a result of basic scientific research, fundamental data are assembled for use by planners and researchers in other organizations, both government and private. Historical research, through studies in technological development, art, cultural history, biography and folklife traditions, contributes to the knowledge about our heritage and about the nation's growth.

- Exhibitions, including performances and festivals or celebrations: These presentations constitute one means of diffusing knowledge on a wide scale. In Washington and New York, Smithsonian museums, galleries, and the Zoological Park devote exhibit space to showing significant objects, specimens, and animals from the permanent collections. In addition, temporary exhibitions with loan materials enhance these presentations, adding fresh concepts and ideas--further enriching visitor experiences. Through the Smithsonian Institution Traveling Exhibition Service, some 140 exhibitions are seen annually by more than five million visitors in nearly 700 institutions across the country. Live performances, festivals, celebrations, lectures and records are also enjoyed by millions of people in the Smithsonian museums as well as in institutions elsewhere and in private homes throughout the nation. Such programs are produced by the Division of Performing Arts, the National and Resident Associates Programs, and the Folklife unit.
- Education: Perhaps the most important means of diffusing knowledge is through the education programs of the Institution. These programs offer enormous variety in content and form; they range from in-depth, scholarly symposia to activities for fun and enjoyment, and reach all ages from young children to senior citizens. They include classes and workshops, guided tours by trained docents and radio, television, and motion picture programs, sponsored by the individual museum and by centralized offices including Fellowships and Grants, Symposia and Seminars, and Elementary and Secondary Education. A highly significant aspect of the education effort involves production each year of several hundred publications including museum catalogues, books, scholarly monographs, articles, papers, the Archives of American Art Journal, and Smithsonian magazine, which is now received by approximately 1.7 million Resident and National Associates. At any given time there are likely to be two to three hundred visiting scholars, scientists and students working throughout the Institution in various collections, laboratories, and offices. Finally, as another educational endeavor, the Institution's Office of Museum Programs offers assistance to museums across the country and abroad by conducting museum training courses, producing and distributing audiovisual programs on conservation principles and techniques, and by awarding grants for professional museum training and research.
- Collections acquisitions: The Smithsonian museums acquire works of art, artifacts and specimens, and other objects in three ways: by collecting, by donation and by purchase. Collecting and donation are and will continue to be the major means for acquiring material for the collections. However, donations and even collections for the most part, may not be the result of planned development. If the Institution's research and exhibition programs are to thrive, the collections must grow by thoughtful design. To meet this responsibility and challenge, the Smithsonian seeks to provide special acquisitions funds for the museums. Some Federal funds are requested each year to permit regular planned purchases.

In order to carry out these functions, administration and facilities services units of the Institution provide the required support. The Smithsonian has the responsibility for the maintenance, operation and protection of a large complex of museum and gallery buildings and other facilities. The Institution also provides architectural and engineering services for major repairs, alterations and improvements to the physical plant.

FY 1981 Budget Priorities

The Institution's FY 1981 budget request aims toward meeting objectives specified in the following four general categories: basic operations, major new programs, legislated requirements and programmatic needs. First, significant finding is sought to meet essential operating requirements. These operating requirements include adequate base funding for utilities and rental costs and a portion of the resources needed to equip the Museum Support Center. These include a storage system, security system, and Conservation Analytical Laboratory equipment and operating support. The Conservation Analytical Laboratory is

also requesting funds to begin to develop an enlarged conservation training program. Additionally, funds are sought for each of the Institution's approximately 60 organizational units to keep pace with inflation in nonsalary areas of expense. Finally under this category, new resources are sought for several units whose workload continues to increase significantly in the administrative and facilities services areas.

Second, funds are requested to initiate two important programs. One is a major exhibition program that would devote significant resources toward producing large new exhibitions in history and art museums, especially at the National Museum of History and Technology. The other, called the Smithsonian ~~National~~ Awareness Program, would call attention in various exciting and innovative ways to the nation's energy and environmental issues. The Program will be developed through a cooperative, interdisciplinary effort among the science areas and will involve varied means of presentation, including exhibitions, and educational efforts aimed toward reaching large numbers of people.

Third, resources are sought to enable the Smithsonian Tropical Research Institute to meet its vastly increased responsibilities and requirements resulting from the Panama Canal Treaty and related agreements.

Finally, new positions and funding are proposed to fill needs in research, collections management, exhibitions, acquisitions, and administration in several museums, galleries and research units throughout the Institution.

Although no program increase is proposed for the Special Collections Management/Inventory Program first established in FY 1979, collections inventory work will continue throughout the Institution, especially at the National Museum of Natural History, the National Museum of History and Technology, and the Cooper-Hewitt Museum.

Improvements to the physical plant recommended in this budget are both of a short- and long-term nature. Funds are sought for the continued program of construction at the National Zoological Park according to its Master Plan. Significant funding is sought for the Restoration and Renovation of Buildings Appropriation according to a schedule outlined in detail in the Institution's Five-Year Prospectus - FY 1981-1985. Further planning funds are requested for a project that will meet a variety of the Smithsonian's needs in a comprehensive and coherent manner for years to come. The project envisions development of the South Quadrangle, an area of approximately 4.2 acres located between the Smithsonian Institution Building and Independence Avenue. New facilities proposed for the South Quadrangle include a new center for the exhibition and study of Asian Art, the Museum of African Art, central library and rare book needs, and underground administrative, support, and parking requirements.

The Five-Year Prospectus - FY 1981-1985, approved by the Board of Regents at the January 28, 1980 meeting and provided to the Congress, outlines the Smithsonian's operational and facilities plans for that period.

For FY 1981, the Institution is requesting the following appropriations:

(Dollars in thousands)

	<u>FY 1980 Appropriation</u>	<u>FY 1980 Requested Supplemental</u>	<u>Requested FY 1981 Increase</u>	<u>FY 1981 Estimate</u>
Salaries & Expenses	\$103,781	\$4,774	\$11,757	\$120,312
Special Foreign Currency Program	4,200	--	250	4,450
Construction & Improvements, National Zoological Park	6,250	--	-2,960	3,290
Restoration & Renovation of Buildings	5,250	--	3,589	8,839
Construction:				
Museum Support Center	20,600	--	-20,600	--
South Quadrangle Development Planning	--	--	500	500
Totals	\$140,081	\$4,774	-\$7,464	\$137,391

I. Salaries and Expenses

The requested increase of \$11.8 million consists of \$5.0 million in uncontrollable increases, and \$6.8 million in program increases. Uncontrollable increases include projected higher costs in FY 1981 than the costs incurred in FY 1980 for staff, utilities and rental payments, and funds to help defray the effects of inflation in nonsalary areas. The program increase of 55 positions and \$6.8 million would promote major exhibitions, education, and conservation, encourage basic research, and permit the continued strengthening of management and facilities services functions. Some funding is included for small, but essential increases to the Federal collections acquisitions bases of two history and art museums. The funding is allocated by activities as follows (organizational allocation appears on pages A-2 and A-3):

	<u>FY 1980 Base</u>	<u>Requested Uncontrollable Increase</u>	<u>Requested Program Increase</u>	<u>FY 1981 Estimate</u>
Science	\$ 39,958,000	\$1,068,000	\$ 885,000	\$ 41,911,000
History and Art	18,232,000	474,000	469,000	19,175,000
Public Service	2,344,000	63,000	115,000	2,522,000
Museum Programs	8,640,000	205,000	333,000	9,178,000
Special Programs	2,343,000	63,000	4,215,000	6,621,000
Administration	8,081,000	175,000	342,000	8,598,000
Facilities Services	28,957,000	2,964,000	386,000	32,307,000
TOTALS	\$108,555,000	\$5,012,000	\$6,745,000	\$120,312,000

II. Special Foreign Currency Program

<u>1979 Appropriation</u>	<u>1980 Appropriation</u>	<u>1981 Estimate</u>
\$3,700,000	\$4,200,000	\$4,450,000

This appropriation will allow the Smithsonian to continue a program of grants in those countries where "excess" local currencies are available. Research will be performed in the following areas of Smithsonian Institution interest and competence: archeology and related disciplines; systematic and environmental biology; astrophysics and earth sciences; and museum programs. The Foreign Currency Program awards to Smithsonian employees, which are limited to a total of \$500,000, are executed as normal Federal allotments to the individual bureaus of the Institution for the support of approved employee research projects. Such funds are expended following all appropriate federal personnel and procurement regulations. The balance of the funds is awarded to applicants whose projects are also selected by a panel of reviewers. The appropriation request also includes \$750,000 requested to support the forward-funded reserve, initiated in FY 1980 with a Congressional appropriation of \$500,000, for the American Institute of Indian Studies.

III. Facilities Planning, Renovation, Restoration and Construction

<u>FY 1979 Appropriation</u>	<u>FY 1980 Appropriation</u>	<u>1981 Estimate</u>
\$6,575,000	\$32,100,000	\$12,629,000

Construction and Improvements, National Zoological Park. (\$3,290,000) - The FY 1981 appropriation request for Construction and Improvements at the National Zoological Park will be used to continue to make progress on the implementation of the approved Master Plan for the improvement of the animal and public facilities and to perform essential renovation, repair and improvement projects at the Rock Creek Park Zoo and at the Conservation and Research Center in Front Royal, Virginia. The Master Plan development scheduled for FY 1981 consists of construction of a Monkey Island exhibit, which would complete the series of construction projects in the central area of Rock Creek Park. Zoo funds also are sought to build the small mammal breeding portion of a delicate animal facility and to design hardy bird yards at the Front Royal Conservation and Research Center. Resources are included for necessary restoration and renovation work both at Rock Creek and Front Royal.

Restoration and Renovation of Buildings. (\$8,839,000) - The FY 1981 appropriation request for Restoration and Renovation of Buildings consists of repairs to facades, roofs and terraces of various historic and monumental buildings; the upgrading, including planning and installation, of fire detection and suppression systems; the provision of improved access for the disabled, and the correction of conditions that could be hazardous to the safety and security of the visiting public, staff, and the collections; repairs and improvements to utility systems in several museum and collections storage buildings, including heating, ventilating and air conditioning systems and plumbing and electrical systems; improvements in support of programmatic objectives, mainly at the Smithsonian's outlying facilities; and general repairs and improvements that are required for a variety of purposes.

Construction: South Quadrangle Development Planning. (\$500,000) - Appropriated funds sought in FY 1981, combined with the Institution's nonappropriated Trust funds, are designated to sustain the planning and design activities for proposed new facilities in the South Quadrangle. The South Quadrangle consists of an area of approximately 4.2 acres and is located between the Smithsonian Institution Building and Independence Avenue. The facilities will house a new center for the exhibition and study of Asian art, the Museum of African Art, central library and rare book needs, and underground administrative, support and parking requirements.

Nonappropriated Funds

This budget is presented to explain the use of nonappropriated funds, as well as appropriated funds, for each Smithsonian bureau that receives a Federal appropriation. Information on the sources and application of all Smithsonian operating funds is detailed under Tab D in this budget request.

In addition to the Federal appropriations, the Institution has two major categories of nonappropriated funding. These are the Smithsonian Trust funds and Federal grants and contracts.

The Trust funds are composed of restricted and unrestricted funds. Unrestricted Trust funds (general and special purpose) originate from a variety of sources including income from endowments and current fund investments, parking and food service concessions, sales of Smithsonian products based on designs and objects in the collections, the Resident and National Associates' programs (including Smithsonian magazine), and the museum shops. In addition, certain bureaus have their own income-producing activities, such as the Theater and Spacearium operations of the National Air and Space Museum. Restricted Trust funds include gifts, grants, endowment and other income designated for specific projects and purposes by the donor. The Freer fund is the largest example in this category, being strictly controlled under the terms of the original bequest for the sole use of the Gallery.

The other source of nonappropriated funding, Federal grants and contracts, is made available to the Smithsonian by Governmental agencies and departments to support specific types of research, educational or other projects which the Smithsonian can undertake as a result of its expertise or its ability to respond quickly to certain kinds of needs.

There are three major purposes to which the unrestricted Trust funds are applied. First, the expenses of the auxiliary activities, such as the Associates program (including the Smithsonian magazine), and the museum shops, are funded from the earned income of these activities. Secondly, central management and administrative service units of the Institution, such as legal counsel, accounting, personnel, supply and others receive Trust fund allotments funded almost entirely from the overhead recovery on grants and contracts administered by the Smithsonian and from administrative fees charged to Trust-funded activities. Operating funds are also provided to various units for research and other specific purposes. Finally, a variety of allocations for important institutional and bureau needs have been made with the approval of the Board of Regents.

This last category has taken on an increasing significance over the last couple of years as it has had the effect of reducing Federal resource requirements. The most substantial continuing commitment under this category is the \$2,000,000 annual allocation for the Institution's Collections Acquisitions, Research and Education Programs, first approved by the Board of Regents in FY 1978. Of the \$2,000,000 an amount of \$1,000,000 is available annually for purchase of objects of outstanding importance to the collections. For example, in FY 1979 these funds supported the acquisition (\$368,000) of Artisteide Maillol's monumental European bronze sculpture, "Action in Chains (L'Action Enchainee)". An additional amount of \$500,000 is designated for scholarly research projects that do not lend themselves to or are not appropriate for Federal funding. These include research opportunities that might arise suddenly (such as the 1979 earthquake on St. Vincent Island where researchers gathered to analyze data immediately following the quake), multidisciplinary research projects that can be carried out within and/or between bureaus, and projects that have been awarded external funds, which require matching Trust funds. The remaining \$500,000 of the \$2,000,000 figure is allocated to implement a wide range of public education programs of benefit to the public.

Beginning in FY 1979, the Board of Regents approved using an additional \$1,020,000 of the Institution's unrestricted Trust funds for certain programs previously financed

with appropriated funds. These consist of the Institution's visiting research and fellowship program and the appropriate Trust fund share of rental costs of administrative units in L'Enfant Plaza and rental payments by auxiliary activities occupying space on the Mall. Funds of \$1,148,500 are being applied to these programs in FY 1980 and a similar amount is projected for FY 1981. Further amounts of \$1,250,000 in FY 1979, \$1,000,000 in FY 1980, and \$1,000,000 in FY 1981 of unrestricted Trust funds are being reserved for the South Quadrangle project, in addition to the funds that had been used for initial planning (\$165,000). The project will include construction of a new center for the exhibition and study of Asian Art, a new building for the Museum of African Art, central library and rare book needs, and underground administrative, support and parking requirements in the area south of the Smithsonian Building. It will be financed through support from outside contributions, the Institution's own nonappropriated Trust funds, as well as appropriated funds.

After the three major categories of operating expense financed with unrestricted Trust funds are met, the remaining unrestricted income is designated for three purposes. Funds are transferred to the museums and galleries in recognition of their assistance in the planning and carrying out of museum shop, product development and concession programs. These funds, amounting to only a few hundred thousand dollars each year, are used for the general operations of the receiving bureaus. A second designation is for improvements to the physical plant or land acquisitions, such as for the projected Garden for the Handicapped. Finally, funds permitting, the Institution makes an annual transfer to its endowment for the purpose of providing income for rising costs in future years.

TAB A

SALARIES AND EXPENSES

SMITHSONIAN INSTITUTION

SALARIES AND EXPENSES

Summary of Increase FY 1981

Appropriation, FY 1980		\$103,781,000
Proposed Pay Supplemental		<u>4,774,000</u>
Base, FY 1980		\$108,555,000
FY 1981 Request		<u>120,312,000</u>
Uncontrollable Increase	\$5,012,000	
Program Increase	<u>6,745,000</u>	
Total Requested Increase		\$ 11,757,000

SMITHSONIAN INSTITUTION
"Salaries and Expenses"
Summary of the 1979 Appropriation and the 1980 and 1981 Estimates

(Dollars in thousands)

Page No.	Unit	1979 Actual		1980 Estimate		1981 Estimate		Analysis of Increase			
		Pos.	Amount	Pos.	Amount	Supple- mental	Total	Pos.	Amount	Uncontrol- lable	Program
Science											
A-13	Assistant Secretary for Science	7	294	7	298	15	313	7	323	10	-
A-15	National Museum of Natural History	504	13,248	506	13,776	803	14,579	506	14,899	320	-
A-19	Astrophysical Observatory	73	4,803	73	4,872	170	5,042	77	5,303	177	84
A-25	Tropical Research Institute	71	2,025	75	2,066	100	2,166	87	2,772	75	531
A-31	Radiation Biology Laboratory	48	1,714	49	1,803	70	1,873	49	2,008	65	70
A-34	National Air & Space Museum	225	5,363	223	5,776	251	6,027	223	6,211	184	-
A-38	Chesapeake Bay Center	22	672	21	704	32	736	22	956	20	200
A-44	National Zoological Park	324	7,854	327	8,220	396	8,616	327	8,807	191	-
A-47	Center for Study of Man	7	550	8	583	23	606	8	632	26	-
	Subtotal, Science	1,281	36,523	1,289	38,098	1,860	39,958	1,306	41,911	1,068	885
History and Art											
A-51	Ass't Secretary for History and Art	9	290	9	296	20	316	10	347	5	26
A-53	Museum of History and Technology	274	6,421	278	6,967	389	7,356	279	7,588	146	86
A-57	National Collection of Fine Arts	106	3,069	105	3,203	166	3,369	106	3,535	91	75
A-62	National Portrait Gallery	78	2,265	76	2,338	124	2,462	76	2,651	79	110
A-66	Hirshhorn Museum & Sculpture Garden	80	2,080	80	2,179	100	2,279	80	2,349	70	-
A-69	Freer Gallery of Art	30	554	29	624	39	663	30	728	15	50
A-72	Archives of American Art	17	459	17	518	30	548	17	564	16	-
A-75	Cooper-Hewitt Museum	20	467	21	621	17	638	23	714	26	50
A-80	Museum of African Art	24	100	23	574	27	601	24	699	26	72
	Subtotal, History & Art	638	15,705	638	17,320	912	18,232	645	19,175	474	469
Public Service											
A-84	Ass't Secretary for Public Service	9	256	9	244	16	260	10	300	5	35
A-87	Anacostia Neighborhood Museum	19	556	19	655	30	685	19	706	21	-
A-89	International Exchange Service	5	232	5	217	5	222	5	232	10	-
A-91	Division of Performing Arts	9	294	9	326	16	342	10	395	9	44
A-94	Smithsonian Institution Press	28	774	28	789	46	835	29	889	18	36
	Subtotal, Public Service	70	2,112	70	2,231	113	2,344	73	2,522	63	115

SMITHSONIAN INSTITUTION
"Salaries and Expenses"
Summary of the 1979 Appropriation and the 1980 and 1981 Estimates

(Dollars in thousands)

Page No.	Unit	1979 Actual		1980 Estimate		1981 Estimate		Analysis of Increase				
		Pos.	Amount	Pos.	Amount	Supple- mental	Total	Pos.	Amount	Uncontrol- lable	Program	
Museum Programs												
A-98	Ass't Secretary for Museum Programs	96	2,095	92	2,252	108	2,360	93	2,535	1	51	124
A-105	Office of the Registrar	4	107	4	110	7	117	4	119	-	2	-
A-107	Conservation Analytical Laboratory	22	627	22	745	35	780	29	896	7	27	89
A-111	Smithsonian Institution Libraries	96	2,397	99	2,679	123	2,802	100	3,009	1	88	119
A-115	Office of Exhibits Central	47	1,167	47	1,196	70	1,266	47	1,290	-	24	-
A-117	Traveling Exhibition Service	6	145	6	151	8	159	6	163	-	4	-
A-120	Smithsonian Archives	13	324	13	333	21	354	13	363	-	8	1
A-122	National Museum Act	3	792	3	798	4	802	3	803	-	1	-
	Subtotal, Museum Programs	287	7,654	286	8,264	376	8,640	295	9,178	9	205	333
Special Programs												
A-125	American Studies & Folklife Programs	4	346	4	461	27	488	4	506	-	18	-
A-128	International Environmental Science	2	382	2	396	12	408	2	524	-	16	100
A-131	Academic and Educational Programs	19	451	19	474	27	501	20	568	1	13	54
--	Research Awards Program	-	386	-	-	-	-	-	-	-	-	-
A-135	Collections Management/Inventory Prog.	-	482	-	500	46	546	-	562	-	16	-
A-139	Major Exhibition Program	-	-	-	-	-	-	-	1,000	-	-	1,000
A-143	Smithsonian National Awareness Program	-	-	-	-	-	-	-	600	-	-	600
A-147	Museum Support Center Equipment	-	-	-	400	-	400	-	2,861	-	-	2,461
	Subtotal, Special Programs	25	2,047	25	2,231	112	2,343	26	6,621	1	63	4,215
A-151	Administration	249	7,024	256	7,658	423	8,081	260	8,598	4	175	342
Facilities Services												
A-157	Facilities Planning & Engineering Svcs.	31	910	35	1,040	64	1,104	36	1,255	1	24	127
A-160	Protection Services	555	9,353	555	9,746	569	10,315	563	10,682	8	207	160
A-163	Office of Plant Services	322	16,827	321	17,193	345	17,538	326	20,370	5	2,733	99
	Subtotal, Facilities Services	908	27,090	911	27,979	978	28,957	925	32,307	14	2,964	386
	TOTAL	3,458	98,155	3,475	103,781	4,774	108,555	3,530	120,312	55	5,012	6,715

SMITHSONIAN INSTITUTION
FY 1981 UNCONTROLLABLE INCREASES

Additional funds are sought to finance costs that are beyond the control of the Institution. These increases result from law, prevailing practice of wage setting, changes in utilities, postage and communications costs, the cost of one additional workday in FY 1981, and higher costs of supplies and services due to inflation. A total of \$5,012,000 is requested for these uncontrollable increases:

Necessary Pay and Related Benefits.....	\$1,197,000
Utility Rate Increases.....	2,090,000
Postage Rate Increase.....	50,000
Telephone Rate Increase.....	170,000
Fuel Oil Rate Increase.....	90,000
Rental Increases.....	170,000
Inflation.....	<u>1,245,000</u>
Total	\$5,012,000

NECESSARY PAY AND RELATED BENEFITS - An amount of \$1,197,000 is required for personnel compensation and benefits for the projected higher costs in FY 1981 of FY 1980 staff. These increases accrue to employees as a result of within-grade step increases, legislated pay raises, and one additional workday which will occur in FY 1981. Costs are calculated on a position by position analysis taking into consideration approved new hires in the current year, savings from turnover, and filling of vacancies at lower grades when possible. Absorption of these costs from currently available funds seriously impairs approved program activities. First, for every \$17,000 that must be applied to these costs from funds already in salaries and benefits, approximately one staff year of approved employment is lost. Second, if other object class funds must be applied to these costs, employees are left without adequate supplies, tools and equipment essential to continue current level programs and functions. The additional personnel costs are attributable to the following externally imposed factors:

(1) Within-grade Step Increases - Necessary pay funding of \$1,179,000 is required in FY 1981 for within-grade step increases. For General Schedule employees, such increases are required by 5 U.S.C. 5335. Wage employees are covered by law and prevailing practice. Such increases must be granted if employees are performing at acceptable levels of competence. In any one fiscal year, the costs of within-grade increases are substantial. These increases include the part-year cost of new actions in the current year as well as the cost of annualizing step increases granted in the prior fiscal year.

The General Schedule portion of this request amounts to \$971,000. There are approximately 2,600 General Schedule employees of whom approximately 1,600 are scheduled to receive within-grade increases. The Wage portion amounts to \$208,000. There are approximately 900 Wage employees of whom approximately 300 are scheduled to receive within-grade increases. It is anticipated that the amount requested for the General Schedule employees will not be affected by the Merit Pay provisions of the Civil Service Reform Act of 1978.

(2) Annualization of Legislated Pay Raises - Funds in the amount of \$276,000 are requested to annualize the General Schedule and Wage pay increases effected in FY 1980.

In accordance with P.L. 91-656, General Schedule salary scales are adjusted each October to make them comparable to rates paid for similar work in private industry. The total annual cost of the raise that went into effect October 7, 1979 is estimated to be \$4,103,000. A supplemental appropriation of \$3,916,000 is being sought in FY 1980. The balance of \$187,000 is requested in FY 1981 to provide full-year funding.

Wage raises are granted under the authority of 5 U.S.C. 5341. Prevailing practices call for Wage pay scales to be reviewed by a Wage Finding Authority in each geographic area.

In the Washington area, this has resulted in Wage employees receiving a pay raise in October of each year. Smithsonian employees in Panama, Maryland, Virginia, Arizona and New York traditionally receive similar Wage increases at other times. However, due to the Wage pay limitation in effect in FY 1979, procedures established for FY 1980 appropriated Wage schedules required an initial pay adjustment for Wage employees in all geographic areas effective October 1, 1979 in addition to the regular pay adjustment issued pursuant to a Wage survey for each wage area schedule with an effective date in FY 1980. The two pay adjustments for each geographic area or Wage schedule cannot exceed the rate in effect on September 30, 1979 by more than 7.02 percent. The total annual cost for these raises is estimated to be \$947,000. A supplemental of \$858,000 is being sought in FY 1980. The balance of \$89,000 is requested in FY 1981 to provide full-year funding.

(3) One Additional Workday - The annual rates of pay, as well as resources currently available for compensation to employees, are based on employees being paid for a 262-day workyear as required for FY 1980. FY 1981, however, will contain 261 workdays or one more day than the standard 260-day workyear. Funding of \$258,000 for employees' salaries and benefits, one-half the amount granted in FY 1980 for two additional days, is being relinquished in FY 1981. (This is displayed on the Necessary Pay Table page A-11.)

The distribution of the requested FY 1980 pay supplemental appropriation totaling \$4,774,000 is distributed by organizational unit as shown on pages A-2 and A-3.

UTILITY, POSTAGE AND TELEPHONE INCREASES - Presently a base of \$8,635,000 is available to fund the costs of electricity, heating steam, gas, postage, telephones and fuel oil. An additional amount of \$2,400,000 is sought in FY 1981 to cover the projected increased cost of these items.

The following table depicts actual and anticipated use and cost of the major components of the utilities account between FY 1978 and FY 1981 and summarizes the projected base shortage in each component between the FY 1980 appropriation and the estimated costs for FY 1981.

ANALYSIS OF UTILITIES COSTS
OFFICE OF PLANT SERVICES
FY 1978 - FY 1981

Fiscal Year	Electricity			Heating Steam			Gas		
	Use	Unit Cost	Cost	Use	Unit Cost	Cost	Use	Unit Cost	Cost
	Millions of KWH	Average \$ Per KWH	\$1,000s	Millions of lbs.	Average \$ Per 1,000 lbs.	\$1,000s	Millions of Cu. Ft.	Average \$ Per Cu. Ft.	\$1,000s
1978 Actual	88.8	.0418	3,710	266.7	8.54	2,275	1.055	.2577	304
1979 Estimated Actual	88.4	.0438	3,873	261.6	8.52	2,308	0.954	.3120	307
1980 Estimate	88.8	.0538	4,777	267.0	9.67	2,550	1.055	.3120	330
1981 Estimate	88.8	.0651	5,777	267.0	10.52	2,508	1.055	.3308	350
1981 Estimate			5,777			2,805			350
1980 Base			3,955			2,465			425
	Base Shortage, Electricity		\$1,822	Base Shortage, Heating Steam		\$ 343	Surplus, Gas		\$ 75

Additionally, an increase of \$310,000 is needed to cover projected rate increases associated with postage (\$50,000), fuel oil (\$90,000), and telephones (\$170,000) the latter resulting from anticipated cost increases for operation of the Federal Telecommunications Network Service (FTS) administered by the General Services Administration. The Smithsonian continues to limit telephone costs by routing all service and equipment requests through a central telecommunications office to assure that adequate justifications and only essential services and equipment required are obtained.

The estimates for FY 1980 and FY 1981 are based upon past usage data, historical weather patterns, current and planned use of space in buildings, available information on rates from utilities companies, and increases that have resulted from or are considered likely as a result of the national and international energy situation.

The major component (\$1.8 million) of the proposed increase is for electricity. While electricity usage is estimated to be the same in FY 1981 as it was in FY 1978, costs have been rising steadily each year. In FY 1980 and FY 1981, these costs are projected to increase drastically due to recently passed and currently pending rate increases, and implementation of a "time of day" rate structure. This structure would result in a premium rate charge for peak day time consumption, that is, between the hours of 12 noon and 8:00 p.m. on weekdays. For heating steam, consumption also is projected to be approximately the same in FY 1981 as it was in FY 1978. Rate increases anticipated in FY 1981 are based upon actual annual rate increases experienced over the past several years. These resulted from higher costs for fuel oil and coal which are used to generate heating steam, the costs of which are passed on to the consumers through the General Services Administration.

ENERGY CONSERVATION EFFORTS - The Institution's energy conservation program continues to help limit consumption despite the major construction program at the National Zoological Park and renovation of numerous exhibit halls in Mall museums which cause increased energy use. Further, the Institution is able to project a relatively constant rate of consumption taking into account estimated savings from energy conservation efforts being vigorously pursued in all of the Institution's activities. Since the Institution's energy conservation program was first initiated in 1974, new technologies have been introduced by the Office of Plant Services, including the installation during FY 1975 - FY 1979 of a computerized power management system which has resulted in substantial energy cost avoidance. This system minimizes costly peak demand rates by cycling motors on and off on a prescheduled basis, and, when necessary, selectively shutting down equipment before incurring the higher rates. In addition, the installation of preventive maintenance and equipment monitoring systems have assisted our conservation efforts by assuring that all installed utilities function efficiently.

Other efforts to achieve more economical and efficient energy usage include reduction in lighting levels in work and non-public spaces and, whenever possible, in public areas; operation of heating and air-conditioning systems at minimum levels required to prevent damage to collections; and shut-down of fans and other heavy consumers of electricity during non-public hours. The Office of Plant Services, with the assistance of an energy conservation engineer, is continuing to seek new methods of controlling energy consumption by identifying and correcting sources of wasted energy, by retrofitting utilities distribution equipment where necessary, and by evaluating the patterns of energy use throughout the Institution.

The Institution has recently established an Energy Conservation Task Force whose membership reflects a broad Smithsonian audience of functional activities and organizations. The Task Force conducts in-depth studies and is continuing to develop short and long-range plans to reduce energy consumption. The results of implementation of approved projects during FY 1981 will serve to reduce costs not only in FY 1981, but cumulatively in future years as well. These projects include installation of more efficient lighting systems, installation of a year-round modification set back switch system, and other projects which are expected to pay for themselves in a relatively short time because of resultant energy savings.

RENTAL SPACE - This item consists of the proportionate Federal rental space costs of the administrative activities located at L'Enfant Plaza, the Smithsonian Institution Service Center at 1111 North Capitol Street and the Smithsonian Oceanographic Sorting Center at the Washington Navy Yard. The Smithsonian under the terms of the rental leases is required to assume additional costs for operating expenses at these locations brought about by sharp increases in maintenance and utilities costs. An amount of \$170,000 is sought in FY 1981 to cover the resultant higher space rental costs at these locations.

INFLATION - For the first time in the Smithsonian's Congressional budget presentation, resources totaling \$1.245 million are requested to compensate for inflation in the nonsalary areas of expense. This amount has been allocated in this submission and appears in each organization unit's base request. The request is calculated on the basis of approximately seven percent of the total nonsalary object classes of expense, excluding utilities.

As with other museum and/or research organizations, inflationary increases represent significant costs that have the cumulative effect of seriously eroding continuing exhibitions, research, collections management, acquisitions and education programs as well as administrative, facilities and protection support services. Where possible, items of expense are eliminated, methods changed, or funds reallocated from other areas to help offset the effects of inflation but such measures are of only limited or temporary benefit as prices continue to rise across the board. The result of inflation, therefore, is equivalent to a percentage cut each year to the base of all of the Institution's approximately sixty organizational units and the consequent reduction in the quality and quantity of Smithsonian programs.

Cost increases affecting the Smithsonian's main program areas have been staggering. One such area is exhibitions. Materials used in mounting exhibitions are becoming increasingly more costly. The following table shows comparative prices for several items used extensively in exhibitions:

<u>Exhibit Supplies</u>				Percentage Increase (inflation rate) FY 1976 - 1978
<u>Item</u>	<u>FY 1976 Unit Cost</u>	<u>FY 1977 Unit Cost</u>	<u>FY 1978 Unit Cost</u>	
Plywood - 4x8 sheet - 1/2 inch	\$10.50	\$11.00	\$13.00	24 percent
Plywood - 4x8 sheet - 3/4 inch	14.95	15.00	18.95	27 percent
2x4s, 16 ft.	4.00	4.25	4.65	16 percent
Drywall - 4x8 sheet - 1/2 inch	2.30	2.58	3.25	41 percent
Pine - per board ft.	.96	1.10	1.65	72 percent
Paint, white latex - 1 gallon	3.05	3.65	5.15	69 percent
Shellac - 1 gallon	5.50	6.00	11.00	100 percent

The increasing cost of exhibitions has led to an overall review of exhibit design and construction procedures by exhibits departments of the museums in an effort to conserve materials and the work needed to put them together.

The cost of publishing the catalogues and papers written by Smithsonian staff also has increased dramatically in recent years. For example, a catalogue prepared by the National Portrait Gallery entitled "Christian Gullager - Portrait Painter to Federal America" cost \$7,500 to publish in FY 1976. A comparable catalogue, "Robert Edge Pine - A British Portrait Painter in America" cost \$10,600 in FY 1979, an increase of 41 percent. The National Museum of Natural History, in another example, budgeted \$160,000 in 1976 for publications support. In FY 1979, over \$200,000 was spent in this area, the increase resulting from inflationary pressures.

Other research-related expenses are those for basic scientific equipment and supplies. The inflation rate for such essential items as microscopes is estimated at 15 percent. Service contracts for maintaining specialized scientific equipment have increased between eight and 32 percent in price. Other scientific supplies, such as glassware, acids and reagents, have experienced price increases as high as 18 percent during one year. The following chart gives an indication of the items (and prices) purchased regularly:

Research and Scientific Supplies and Contracts

<u>Item</u>	<u>1976</u>	<u>1979</u>	<u>1980</u>	<u>Percentage Increase (inflation rate) FY 1976 - 1980</u>
Mammal and reptile tanks	\$190.00	\$ 274.00	\$ --	44 percent
Shelving for tanks	307.00	422.00	--	37 percent
Microscopes	Each order varies due to type and accessories; vendors quote 15 percent increase in price per year.			
Jars, 3/4 liter	.45	.90	--	100 percent
Alcohol, ethyl, 55 gal. drum	8.99	10.33	--	15 percent
UV (ultraviolet) spectrophotometer	--	25,000.00	30,000.00	20 percent
Dry ice	--	767.00	1,188.00	55 percent
Computing equipment maintenance	--	1,560.00	1,752.00	12 percent
Electron microscope maintenance	--	3,948.00	4,620.00	17 percent
Deionized water apparatus	--	1,500.00	1,980.00	32 percent

There are many items used for collections management purposes, which include collections inventory, specimen preservation and storage. These supplies have become more expensive as reflected by the examples in the following table:

Collection Equipment

--Mylar envelopes - used to protect fragile documents and prints on paper

Aug., 1977:	\$0.48/pkg.	
Dec., 1979:	\$0.90/pkg.	87.5 percent increase in two years

--Polyethylene bags - used to protect objects

Jan., 1978:	\$ 7.53/pkg.	
Jan., 1979:	\$10.59/pkg.	41 percent increase in one year

--Polyester screening - used for washing prints and drawings

1978:	\$2.90/yd.	
1979:	\$3.60/yd.	24 percent increase in one year

--Blotting paper - used in the washing and restoration of paper objects

April, 1979:	\$348/pkg.	
Dec., 1979:	\$420/pkg.	21 percent increase in eight months

The rising cost of photographic supplies has been dramatic. The supplies used by the Office of Printing and Photographic Services are primarily petroleum-based film and high quality papers which are coated with silver-based emulsion, all of which are undergoing large price increases. As of January 26, 1980, color and black and white film will become

approximately 34 percent more expensive, and graphic arts film and photo-typesetting papers will increase by as much as 84 percent. These price hikes are expected to cost the Office of Printing and Photographic Services an additional \$28,500 in FY 1980. Some of the other Smithsonian bureaus, particularly the art museums, have small photographic units for in-house work. These will be badly affected by such drastic increases in the cost of supplies.

Perhaps the most significant of all increases has been the skyrocketing price of purchasing art. It has become almost impossible for the Institution to keep up a steady level of art acquisitions, an activity crucial to maintaining the breadth and quality of the Smithsonian collections. Following are some prices paid at different times for the same works of art:

<u>Work</u>	<u>Year/Price</u>	<u>Year/Price</u>
"Steel Workers - Noontime" Painting by Thomas Anshutz	1958: \$ 7,500	1973/74: \$ 250,000
"Absinthe Drinker" Painting by Picasso	1950s: 25,000	1977: 2,000,000
"The Kiss" Bronze Sculpture by Rodin	1975: 31,000	1977: 80,000
"The Maiden and Death" Etching by Edvard Munch	1975: 4,800	1979: 8,500
Two similar paintings from 1918 by Pendergast	1974: 52,600	1978: 160,000
"Gertrude" Lithograph Construction by Red Grooms	1975: 637	1977: 1,600
Pencil Drawing by Jeanette Sloan Pascin	1977: 400	1979: 1,500
Color Lithograph and Silk Screen Print by Robert Rauschenberg	1978: 2,200	1979: 3,200

These are not necessarily works bought by Smithsonian museums, but their purchases are on record and serve to indicate the current conditions of the art market.

The National Zoological Park has had different problems in facing inflation. The cost of feeding the animals has increased from \$224,000 in FY 1978 to \$250,000 in FY 1979. The Zoo adopted new measures to deal with the situation. The Zoo has been able, since acquiring property in Front Royal, Virginia, to grow its own hay and alfalfa at a considerable cost savings. A staff nutritionist has rearranged the diets of some animals substituting less expensive items for the more expensive ones. The Zoo was able to obtain almost a year's supply of meat for the cost only of shipping it. The meat, not suitable for human consumption, was perfectly adequate for use in the animals' diets. Nevertheless, the prices of items of feed that must be purchased are increasing and these increases must be met. The Zoo also has been faced with increased costs for such items as medical supplies and chemicals for filtration systems.

Inflation has had a particularly severe impact on the Institution's administrative, facilities and protection services. Equipment rental and maintenance costs for the Office of Computer Services, for example, as well as the costs of computer paper have risen at an average rate of over ten percent a year. The cost of uniform cleaning services for the

Office of Protection Services has increased an estimated 47 percent over the last two years. In other administrative and facilities costs, the National Air and Space Museum reports that some of the required special cleaning items have gone up in price as much as 430 percent. The chart below lists price increases of everyday cleaning items, the cumulative impact of which can alter significantly budget planning:

<u>Item</u>	<u>FY 1975</u>	<u>FY 1979</u>	<u>Percentage Increase (inflation rate) FY 1975 - 1979</u>	
Sponges/each	\$.23	\$.62	170	percent
Mop wringers/each	8.50	15.10	78	percent
Cake, hard soap/case	19.50	26.00	33	percent
Wax stripper/drum	247.50	321.20	30	percent
Rug shampoo/case	33.75	42.96	27	percent
Detergent/drum	214.50	270.60	26	percent
Floor sealer/drum	321.75	398.20	24	percent
Floor wax/drum	284.63	349.80	23	percent
Mop handles/each	2.65	3.20	21	percent
Push brooms/each	2.70	3.05	13	percent

The contractual cost of the computerized preventive maintenance system used by the Office of Plant Services for scheduling repair jobs has increased 29 percent in one year. The Office of Horticulture, which maintains the grounds surrounding the Smithsonian buildings has submitted the following table as an indication of the inflation on its program:

<u>Item</u>	<u>FY 1978</u>	<u>FY 1979</u>	<u>Percentage Increase (inflation rate) FY 1978 - 1979</u>	
Plant, bulbs (per 100)	\$ 6.50	\$ 8.50	31	percent
Equipment:				
Large 72" mower	5,400.00	6,600.00	22	percent
Small 20" mower	320.00	360.00	13	percent
Scooter 3 wheel	3,200.000	4,000.00	25	percent
Fertilizer, turf (per ton)	263.00	390.00	48	percent

Other tools and supply items, particularly those for plumbing maintenance and lumber have also increased significantly.

Finally, the cost of training Smithsonian staff has become increasingly expensive. In the computer training area, the costs have increased by approximately 25 percent over the past two years. Additionally, computer equipment vendors, who at one time provided some training without charge, now seldom provide free training. The Office of Personnel Management reports that all the training that they offer has become substantially more expensive; this includes the clerical training courses as well as executive or supervisory training. The percentage increase over the past year has ranged from between 15 to 25 percent.

In view of these inflationary pressures, the Institution's request for a seven percent increase of the nonsalary expenses is a modest one. Yet, such an appropriation will be an important and essential step in trying to maintain the Smithsonian's programs and support activities at a level approximating current effectiveness.

Necessary Pay
FY 1981

(Dollars in thousands)

<u>Unit</u>	<u>Within Grades</u>	<u>Annualization of Raises</u>		<u>Extra Day</u>	<u>Total</u>
		<u>GS</u>	<u>Wage</u>		
Assistant Secretary for Science.....	3	1	-	-1	3
National Museum of Natural History.....	196	40	3	-44	195
Smithsonian Astrophysical Observatory.....	34	9	10	-10	43
Smithsonian Tropical Research Institute.....	32	3	1	-5	31
Radiation Biology Laboratory.....	18	3	1	-4	18
Chesapeake Bay Center.....	7	1	2	-2	8
National Air and Space Museum.....	85	9	3	-15	82
National Zoological Park.....	87	9	25	-25	96
Center for the Study of Man.....	6	1	-	-1	6
Assistant Secretary for History and Art.....	4	1	-	-1	4
Museum of History and Technology.....	79	21	3	-21	82
National Collection of Fine Arts.....	37	7	2	-9	37
National Portrait Gallery.....	34	3	2	-6	33
Hirshhorn Museum and Sculpture Garden.....	28	4	-	-5	27
Freer Gallery of Art.....	9	1	1	-2	9
Archives of American Art.....	10	1	-	-1	10
Cooper-Hewitt Museum.....	7	-	6	-2	11
Museum of African Art.....	13	-	-	-	13
Assistant Secretary for Public Service.....	4	-	-	-	4
Anacostia Neighborhood Museum.....	6	2	-	-2	6
International Exchange Service.....	1	-	-	-	1
Division of Performing Arts.....	4	-	-	-	4
Smithsonian Institution Press.....	13	3	-	-3	13
Assistant Secretary for Museum Programs.....	28	3	4	-6	29
Office of the Registrar.....	1	-	-	-	1
Conservation Analytical Laboratory.....	11	-	-	-	11
Smithsonian Institution Libraries.....	33	6	-	-7	32
Office of Exhibits Central.....	17	3	1	-4	17
Smithsonian Traveling Exhibition Service.....	3	-	-	-	3
Smithsonian Archives.....	5	-	-	-	5
National Museum Act.....	1	-	-	-	1
American Studies and Folklife Programs.....	2	-	-	-	2
International Environmental Science Program..	3	1	-	-1	3
Academic and Educational Programs.....	7	1	-	-1	7
Collections Management/Inventory.....	-	1	-	-	1
Administration.....	107	18	1	-23	103
Facilities Planning and Engineering Services.	19	2	-	-3	18
Office of Protection Services.....	151	29	1	-31	150
Office of Plant Services.....	74	4	23	-23	78
Total	1,179	187	89	-258	1,197

SCIENCE

Summary

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	1,281	36,523	81	2,448	9	2,454	9	936	190	11,150
FY 1980 Estimate	1,289	39,958	83	2,437	22	1,532	12	1,278	218	12,452
FY 1981 Estimate	1,306	41,911	87	2,759	21	1,381	12	1,212	231	15,226

*FTP = Full-time permanent positions

Analysis of Increase (Federal Request)

Necessary Pay.....482
Inflation.....586
Program Funds.....885

The FY 1980 base for all units in the Science Activity totals 1,289 positions and \$39,958,000. A program increase of 17 positions and \$885,000 is requested for FY 1981. Necessary pay of \$482,000 is required for existing staff and an amount of \$586,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

The major portion of the proposed program increase, 12 positions and \$531,000, is designated for the Smithsonian Tropical Research Institute (STRI). Substantial additional responsibilities and requirements have been imposed upon STRI as a result of the Panama Canal Treaty and ancillary agreements. These affect STRI in the areas of administration, security, conservation and education. Most of the increase sought for STRI, 12 positions and \$472,000, relate to the Treaty-related responsibilities and requirements. The balance, a total of \$59,000 is for urgently needed maintenance services at the Institute.

The remainder of the proposed increase for Science would be used to promote original research. One position and \$200,000 are requested for the Chesapeake Bay Center for Environmental Studies to sustain the operation and maintenance of the Center's watershed monitoring system. Data from this system is used by state and federal agencies in order to assess how land use affects water quality. Four positions and \$84,000 are requested for the Smithsonian Astrophysical Observatory: three positions, which would be funded by Multiple Mirror Telescope base funds, are needed to expand SAO's observational program in optical and infrared ground-based astronomy; a sum of \$84,000 would establish a telescope detector development program that would have as its objective the ability to make observations farther out into the universe; and one position to be financed by redirected base funds within SAO, is proposed to convert an upward mobility position to a full-time permanent position. Funds of \$70,000 are sought for the Radiation Biology Laboratory for two purposes: an amount of \$50,000 for the purchase of a circular dichroism spectrophotometer, an instrument used to measure the light absorption properties of pigments which is important in determining the role of light in plant growth, and funds of \$20,000 for a part-time green house technician and green house supplies required for the maintenance of experimental plants.

The sources and uses of nonappropriated Trust funds are explained individually for each line-item in the Science Activity.

OFFICE OF THE ASSISTANT SECRETARY FOR SCIENCE

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	7	294	--	46	--	4	--	21	--	166
FY 1980 Estimate	7	313	--	46	--	--	--	117	2	220
FY 1981 Estimate	7	323	--	46	--	--	--	90	2	250

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	7	0	7
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	223	3	226
12 Personnel Benefits.....	21		21
21 Travel & Trans. of Persons...	15		15
23 Rent, Comm. & Utilities.....	4	1	5
25 Other Services.....	44	5	49
26 Supplies and Materials.....	6	1	7
TOTAL	313	10	323

Analysis of Increase

Necessary Pay.....	3
Inflation.....	7
Program Funds.....	0

ABSTRACT - This office is responsible for planning, coordinating, and reviewing the progress of the 14 science bureaus and programs within the Institution. Also included under this heading is the Office of Biological Conservation. No program increase is requested for FY 1981. Necessary pay in the amount of \$3,000 is required for existing staff and an amount of \$7,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Office of the Assistant Secretary for Science advises and assists the Secretary in planning, implementing and reviewing the progress of Smithsonian science programs. The bureaus and other activities reporting to the Assistant Secretary for Science are the National Museum of Natural History, the National Museum of Man, the Astrophysical Observatory, the Tropical Research Institute, the Radiation Biology Laboratory, the Chesapeake Bay Center for Environmental Studies, the National Air and Space Museum, the National Zoological Park, the Center for the Study of Man, the Office of Fellowships and Grants, the Office of Biological Conservation, the Fort Pierce Bureau, the International Environmental Science Program, and the proposed new Smithsonian National Awareness Program justified in the Special Programs section of this budget on pages A-143 to A-145.

Additionally, this office provides the Institution's liaison with national and international science organizations and representation on national and international science boards and commissions.

Office of Biological Conservation - This central office, composed of two staff members, serves as an extension of the Office of the Assistant Secretary for Science. It is responsible for coordinating the Institution's activities in conservation and for developing a program which will assist public understanding of the conditions in our changing environment. Among its concerns is the status of current national and international efforts devoted to conserving plant and animal species. This includes keeping abreast of the educational and legislative programs associated with these efforts. The Office also functions as a liaison to various governmental and non-governmental organizations in the United States and abroad.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by an annual allotment and are used almost entirely to support two significant international foundations which operate field research stations used by Smithsonian staff members, as well as by the world community. The Seychelles Island Foundation operates the former Royal Society station Aldabra, located in the Indian Ocean, where zoological research is conducted (projected expenditures of \$15,000 in FY 1980 and FY 1981). Support is continuing in FY 1980 and FY 1981 for the Charles Darwin Foundation which operates a research station in the Galapagos Isles where zoological research also is conducted (projected expenditures of \$30,000 in FY 1980 and FY 1981). As a result of the unique location of both of these research sites, and the collaborative nature of these operations with the host country, Smithsonian support facilitates the continued use of these areas for the research community at large.

Restricted Funds - Funds have been provided from the World Wildlife Fund for the specific support of an ecological project in Nepal relating to the study and conservation of the tiger and its habitat (estimated expenditures of \$40,000 in FY 1980 and \$30,000 in FY 1981). Restricted funds are also provided in the form of restricted endowments which specify the use of the donation or bequest and of gifts and foundation grants provided by individuals, organizations or corporations for specific purposes. For example, the Sprague Fund has been established for the advancement of the physical sciences (estimated expenditures of \$45,000 in FY 1980 and \$41,000 in FY 1981). The FY 1980 and FY 1981 figures include projected expenditures which will be made by organizations within Science, mostly in the Museum of Natural History; these are shown here since they are administered by this office.

Federal Grants and Contracts - Contract funds have been provided by the Office of Naval Research for the continuation of studies in the area of manpower research and development. The amount of the contract is \$182,000 in FY 1980 and \$209,000 in FY 1981.

NATIONAL MUSEUM OF NATURAL HISTORY

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	504	13,248	1	116	--	703	1	519	28	981
FY 1980 Estimate	506	14,579	1	43	--	198	1	492	23	1,200
FY 1981 Estimate	506	14,899	1	45	--	123	1	502	21	1,190

*FTP = Full-time permanent positions

Detail of Federal Funding

	<u>Base FY 1980</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1981</u>
Number of Permanent Positions....	506	0	506
Number of Other Positions.....	38	0	38
11 Personnel Compensation.....	11,775	178	11,953
12 Personnel Benefits.....	1,088	17	1,105
21 Travel & Trans. of Persons...	126	4	130
22 Transportation of Things.....	40		40
23 Rent, Comm. & Utilities.....	49		49
24 Printing and Reproduction....	217	9	226
25 Other Services.....	648	42	690
26 Supplies and Materials.....	393	27	420
31 Equipment.....	243	43	286
TOTAL	14,579	320	14,899

Analysis of Increase

Necessary Pay.....	195
Inflation.....	125
Program Funds.....	0

ABSTRACT - The National Museum of Natural History (NMNH) serves as a major world center for the natural sciences. It maintains large reference collections and conducts programs of identification and documentation, research, collections management, exhibits and education, and collaborative projects with universities and other institutions of learning. No program increase is requested for FY 1981. Necessary pay in the amount of \$195,000 is required for existing staff and an amount of \$125,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - This Museum maintains the largest scientific reference collections in the nation (over 60 million objects) and has the legal responsibility (20 U.S.C. 59) to serve as the repository of all collections of objects of natural history, archeology and ethnology given by agencies of the government when no longer needed for investigations in progress. Additionally, the NMNH is the repository for numerous extremely valuable collections

obtained from the scientific community, academic institutions and many individuals.

The scientists at the Museum conduct a broad program of basic research on man, plants, animals, fossil organisms, rocks, minerals, sediments and materials from outer space. Their fundamental studies in biology are providing new information required for the solution of major problems of conservation, pollution and food production, for improvement of medical knowledge, and for planning national and international programs leading to predictive ecological and environmental management. One example of such an international program is the Amazon Ecosystem study. It involves zoologists, botanists, anthropologists and other scientists, both from the Smithsonian and host countries, in a comprehensive analysis of environmental conditions in the American tropics. Results will be in the form of individual research reports published by the participating scientists and collective reports published by the team which will summarize findings. The scientific and technical results which flow from this research are made available to others by an active and large publications program, consultations with government agencies, and public lectures. In 1980 the Museum expects to publish 18 scientific papers in the Smithsonian scientific publications series and over 300 articles and papers in outside journals.

The Oceanographic Sorting Center prepares and distributes animal and plant materials to scientists in some 200 agencies around the world which are concerned with marine pollution, ocean dumping, pollution monitoring, environmental prediction and systematic studies. The Scientific Event Alert Network is responsible for providing timely notice of short-lived natural scientific phenomena and events, such as volcano activity, meteorite falls, earthquakes and whale strandings, to scientists and other concerned professionals within and outside of the Smithsonian.

The Handbook of North American Indians is a special project of the Museum which will result in a 20-volume encyclopedic treatment of the cultures, artifacts, territories and habits of Indians. Three volumes have been published to date and several other volumes are proceeding. It is hoped that the project can be completed within the next eight to ten years.

Close to six million people visited the Museum in FY 1979 including many thousands of school children attracted by the exhibits. The Museum's major program of exhibitions improvement, which was begun in FY 1974, has now produced eight major new exhibition areas, the last of which was the "Dynamics of Evolution" hall which opened in May of 1979. Renovation of three halls in the Paleobiology complex, dealing with fossils and the history of life, continues in FY 1980. The first of these renovated halls will open in April of 1980; renovation of the second hall in the group will be completed in early 1981; and the third hall is scheduled to be renovated by February 1982. As part of a new initiative in the Museum's exhibition program, plans are underway to institute a major Temporary Exhibition Hall. This hall will be used to show exciting natural sciences exhibits which presently have no place to be shown in the Washington area.

The Marine Systems program has been conducting an intensive study of tropical reef ecosystems. A successful microcosm of this environment, in which hundreds of tropical reef organisms live in a large aquarium tank that closely approximates natural conditions, has been established and maintained in the Museum now for over two years. A larger version of this microcosm will be put on exhibit in 1980.

As part of its education program, the Museum provides assistance for elementary and secondary school groups. In addition, many members of the scientific staff participate in joint educational programs with universities by teaching courses, training graduate students and conducting science seminars. The Museum also provides leadership in the improvement of museum technique and collections management, especially through the application of computer technology. With the completion in mid-1976 of the Museum's West Court addition, housing the Education Learning Center and the Naturalist Center, major

new educational resources were made available to the public. The Learning Center has four classrooms and an assembly area for the use of visiting groups of students. The Naturalist Center features representative collections from many groups of organisms as well as rocks, minerals, and anthropological materials. The resources of the Center, including the collections and the library, are available to all amateur naturalists. In FY 1980, the Education Department is placing emphasis on the writing of a series of booklets about the Museum. These booklets will be distributed widely to schools and other appropriate groups.

New funding appropriated in FY 1980 provided support for two vital areas of museum collections management. The sum of \$200,000, received for the purchase of drawers, together with the Museum's previous storage equipment base funds of \$200,000, is being applied toward the overall Museum Support Center equipment costs and, accordingly, are shown in the Museum Support Center Equipment portion of the Special Programs section of this budget request. The funds will enable the Museum to begin the process of acquiring encasement equipment for the new Museum Support Center. The drawers purchased in FY 1980 are being used chiefly by the Departments of Entomology and Mineral Sciences to store insect and mineral specimens which have been accumulating in card board boxes and other unsuitable containers prior to the receipt of these funds. These collections eventually will be moved to the Support Center in the new drawers.

The sum of \$359,000, received in FY 1980 for collections inventory work, has been used to accelerate the Museum's inventory program. The funding now available, including the new FY 1980 funds, a share of the special inventory funds provided to the Institution, and funds for inventory work already in the Museum's base, will enable the Museum to continue its task of inventorying the collections. In particular, the target of inventorying all materials to be moved to the new Support Center will be reached. This major program of collections inventory not only will be useful in managing the move of the materials but also will be an excellent day-to-day collections management mechanism. It will enable curators to access the collections much more rapidly and this will enable them to answer many more questions, and more difficult questions, from the scientific and lay public. Also, the inventory lists will be useful in accurately representing the strengths and weaknesses of the collections and this should help the curators in deciding whether to accept or reject additional materials offered to the Institution. In this connection, in the past several years the Museum has developed policies to assist the individual curator and the director in determining the Museum's priorities for acquisitions. Strict criteria have been established that must be met before a specimen or object is considered for acceptance. As a result, many items offered to the Museum are not incorporated into the collections.

The existing collection also is being reevaluated. In the process of conducting the collections inventory, the museum staff is determining the importance of the specimens and objects in its collection. Those considered to be expendable are given to another institution or an educational facility or are discarded.

The appropriation request for the Collections Management/Inventory Program, an explanation of this program and a comprehensive funding summary appear in the Special Programs section on page A-135.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from a variety of sources including the Museum's share of sales in the museum shop and cafeteria; from other receipts such as those realized from the sale of exhibit brochures and the "By-Word" communications system; from tuition grants from local universities; from product development activities; and from allotments including those from the Institution's Collections Acquisitions, Research and Education Program. Expenditures under that Program totalled \$389,000 in FY 1979 and supported the acquisition of the Siber Collection of Fossils, audio visual equipment, and several research and education projects. Expenditures under the Collections Acquisitions, Research and Education Program have been recorded for FY 1979

but not yet for FY 1980. This explains the variance in the totals shown between FY 1979 and FY 1980 and FY 1981. The Museum of Natural History however, can expect to receive and spend funds made available through this Program in FY 1980 and FY 1981. In addition, funds are used to help finance new exhibit brochures, field research support, laboratory equipment and supplies, training for anthropology students, the anthropological archives, supplies for the conservation laboratory, and special events for the opening of new exhibits.

Restricted Funds - Funds provided here are in the form of restricted endowments which specify the use of the donation or bequest and of gifts and foundation grants provided by individuals, organizations or corporations for specific purposes. Generally, the funds provide support for a particular exhibit or project. Among the restricted funds are the Stuart Fund for acquisition of minerals and gems (estimated expenditures of \$100,000 in FY 1980 and in FY 1981); the Hughes Fund for field research in old world archeology (estimated expenditures of \$8,500 in FY 1980 and \$6,000 in FY 1981); the Drake Foundation Fund for the purchase of entomology specimens (estimated expenditures of \$6,000 in FY 1980 and \$6,000 in FY 1981); the Fossil and Industry Fund which consists of numerous corporate donors will sponsor a permanent exhibit on the economic applications of fossils. (The exhibit is anticipated to open in FY 1981 with estimated expenditures of \$100,000 in FY 1980); and the Walcott Fund for development and publication of geological and paleontology studies (estimated expenditures of \$28,000 in FY 1980 and \$33,000 in FY 1981). The Museum also has several other restricted funds each with anticipated expenditures of less than \$10,000 a year.

Federal Grants and Contracts - These funds are provided by various agencies and departments for special projects which can be conducted at NMNH as a result of its particular expertise. Examples of Federal contract support are the medical entomology project funded by the U. S. Army, that conducts basic biosystematic research on the effects of arthropods, such as mosquitoes, which are of military medical significance overseas (estimated expenditures of \$356,000 in FY 1980 and \$392,000 in FY 1981); the "Tumor Registry in Lower Animals" project which facilitates the study of neoplasms and related disorders in invertebrate and cold-blooded vertebrate animals (estimated expenditures of \$168,000 in FY 1980 and \$181,000 in FY 1981); and several other smaller grants for research, including the Coral Reef project, for the development of a living Coral Reef exhibit, and a project for the recording, processing and distribution of polar biological specimens and data.

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	73	4,803	78	1,883	--	180	1	65	159	9,535
FY 1980 Estimate	73	5,042	79	2,174	--	43	1	138	164	10,300
FY 1981 Estimate	77	5,303	83	2,483	--	53	1	139	182	13,100

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	73	4	77
Number of Other Positions.....	16	-1	15
11 Personnel Compensation.....	2,657	107	2,764
12 Personnel Benefits.....	238	11	249
21 Travel Trans. of Persons.....	53	12	65
22 Transportation of Things.....	28	3	31
23 Rent, Comm. & Utilities.....	320	24	344
24 Printing and Reproduction.....	25	2	27
25 Other Services.....	1,246	-23	1,223
26 Supplies and Materials.....	180	21	201
31 Equipment.....	295	104	399
TOTAL	5,042	261	5,303

Analysis of Increase

Necessary Pay.....	43
Inflation.....	134
Program Funds.....	84

ABSTRACT - The Smithsonian Astrophysical Observatory (SAO), established in 1890, has as its primary goal the increase and diffusion of knowledge about the earth and the universe. To accomplish this, SAO conducts a broad program of basic astrophysical research in eight interrelated scientific fields: atomic and molecular physics, geoastronomy, high energy astrophysics, planetary sciences, optical and infrared astronomy, radio astronomy, solar and stellar physics, and theoretical astrophysics. Use of both ground-based and space-borne instruments for data gathering, the reduction and analysis of data and the computer formulation of mathematical models of astrophysical systems are essential to SAO's research program. For these purposes, SAO maintains a multi-purpose observing facility at Mt. Hopkins in Arizona and a number of small observing stations around the world and operates a relatively large computer at its headquarters in Cambridge, Massachusetts. It participates in the scientific space-borne experiments sponsored by the National Air and Space

Administration (NASA). Many SAO programs particularly those involving space observations, are supported by grants and contracts from Government agencies such as NASA, and the Naval Research Laboratory; other programs are conducted in cooperation with state and private educational institutions.

For FY 1981, an increase of four full-time permanent positions and \$84,000 is requested. The increases requested would be applied as follows: (1) three positions to improve and expand the observational program in optical and infrared ground-based astronomy (funds to support these positions are available from within the base of the Mt. Hopkins Observatory--site of the Multiple Mirror Telescope); (2) an amount of \$84,000 to establish a detector development program having broad applications; and (3) one position to convert an upward mobility position into a full-time permanent position (funds to support this position will be made available from within SAO's base). Necessary pay in the amount of \$43,000 is required for existing staff and an amount of \$134,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Smithsonian Astrophysical Observatory's continued leadership in astronomy results, in part, from its diversified approach to research that encompasses many subdisciplines. All of SAO's varied investigations, however, are guided by one all-encompassing objective: to understand the origin, evolution, and nature of the universe. Central to this pursuit is an understanding of the origin of matter in a single explosive event some 20 billion years ago and a description of the process by which this primordial material formed molecules and solids, condensed into stars and planets, and then continued to condense into objects such as neutron stars and black holes. Indeed, SAO scientists hope to determine the ultimate fate of the universe, which could be either infinite expansion into the void or a cyclic recombination of the material that could begin the evolutionary process again. The breadth and depth of the SAO program, with pioneering projects in several fields, has attracted a large and talented assembly of scientific and technical experts. In turn, this staff has created an atmosphere of innovation that both inspires the development of new research tools and encourages the rapid and effective response to promising avenues of investigation. Although research projects are grouped in seven divisions, all efforts are integrated in a comprehensive program so that the results in one division often complement those in another. Those divisions are:

1. Atomic and Molecular Physics--laboratory astrophysics; shock tube and ultraviolet vacuum spectroscopy; and atomic physics.

2. Geoastronomy/Radio Astronomy--very long baseline interferometric observations of celestial radio sources and laboratory studies of interstellar molecules; studies of the earth's motions; geodesy and geophysics; and celestial mechanics.

3. High-Energy Astrophysics--observations of high-energy sources emitting x-rays and/or gamma rays.

4. Optical and Infrared Astronomy--observations of infrared sources; stellar and planetary observations; and studies of stellar evolution.

5. Planetary Sciences--studies of structure and composition of planetary atmospheres; studies of asteroids, meteorites, cosmic dust, and comets; studies of lunar and other extraterrestrial materials; and studies pertaining to the evolution of the solar system.

6. Solar and Stellar Physics--observational and theoretical studies of solar activities; interrelationship of solar and terrestrial phenomena.

7. Theoretical Astrophysics--construction of model stellar atmospheres; investigation of massive and high density stars; cosmology; studies of galactic evolution; physics of interstellar matter; relativistic astrophysics; and gravity-wave physics.

In support of these investigations, scientific data are obtained from laboratory experiments conducted primarily in SAO's Mt. Hopkins Observatory in Arizona--site of the Multiple Mirror Telescope (MMT); at SAO's worldwide network of small observing stations and other major observatories cooperating with SAO; and from space observations utilizing satellites, rockets and balloons, primarily funded by contracts and grants from NASA. The reduction and analysis of these data are performed with SAO's multi-purpose computing facilities in Cambridge. The resulting astrophysical models and scientific interpretations are published in scientific journals and reports and distributed widely to the world's scientific community.

The heaviest program emphasis is placed on those areas of research that support national scientific goals that offer practical benefits to humanity and that promise significant advances in the understanding of the cosmic environment surrounding the earth. In astronomy, perhaps more than in any other field of science, the directions of research and the advancement of knowledge most often result directly from the development of new instrumentation. Accordingly, the resources (positions and research funds) resulting from the major program redirections instituted in FY 1979, combined with the increase of \$300,000 appropriated by the Congress in FY 1979 for the MMT program, continue to be applied toward the development of scientific instrumentation in connection with the MMT.

In the optical and infrared division, major progress is being made towards fully completing the Multiple Mirror Telescope. Completion is expected to take place early in FY 1982. In the meantime, the Telescope is being used 25 percent of the time for scientific observations and is expected to increase gradually to about 80 percent by FY 1982; the remaining 20 percent will be for telescope maintenance. A formal memorandum of understanding has been signed by the University of Arizona (U. of A.) and the Smithsonian, under which the MMT will be operated by the U. of A. on behalf of both institutions. Continued progress is being made in the development of scientific instruments for use with the MMT, other telescopes, and the infrared balloon-borne telescope. Also in this division, work continued on the development of the small, helium-cooled, infrared telescope scheduled for flight aboard Spacelab II in September 1982. This instrument is designed to make the first complete map of extended regions of low-level infrared emissions from the Milky Way.

In the high-energy astrophysics division, much of the effort is being applied towards analyzing data obtained from the Einstein x-ray satellite, which is giving scientists new insight into some of the most puzzling objects in the universe. These are the so-called quasars (quasi-stellar sources). They are so small that they appear starlike in photographs. Yet, they often are more powerful than a whole galaxy of stars. These objects are powerful x-ray emitters. The satellite already has located a number of objects that very likely will turn out to be quasars when they are identified on optical photographs. This raises the hope that the Einstein satellite will give astronomers a comprehensive view of quasars for the first time. That, in turn, would help to answer questions concerning the formulation of large concentrations of matter when the universe was young.

Two divisions, geoastronomy and radio astronomy, were combined into a single division, the geoastronomy/radio astronomy division, as a reflection of the interrelated nature of their research in the areas of development of extremely stable atomic clocks and their use in Very Long Baseline Interferometry (VLBI) and the application of VLBI techniques along with laser tracking of satellites for studies of the earth's motions, geodesy and geophysics; VLBI is used for observing celestial radio sources. The VLBI and laser tracking programs are truly national and international efforts requiring the cooperation of many organizations and their facilities on a world-wide basis. Current efforts are being directed towards development of a system which would allow an observer to control several VLBI stations from a single location. If successful, this technique should provide for better and fuller utilization of VLBI installations as well as for greater scientific productivity and collaboration. Studies across interdisciplinary lines in the areas of relativistic astrophysics and gravity-wave physics are expected to continue.

In the solar and stellar division, advances in understanding about the intricate and intimate relationship between the sun and earth are being made. In addition, emphasis is being placed on achieving a better understanding of the physical processes that take place within the sun. Towards this end, an experiment was proposed by SAO to NASA and accepted by NASA for a future Space Shuttle mission.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of four positions and \$84,000 is requested: (1) three positions for the optical and infrared ground-based astronomy program; (2) \$84,000 for a detector development program; and (3) one position for SAO's upward mobility program.

With the opening of the Multiple Mirror Telescope in the spring of 1979, and the increased use of the Telescope for observations projected in the immediate future, additional astronomers are needed to take fuller advantage of the extraordinary opportunities offered by the MMT. SAO has an excellent complement of scientists for developing scientific instrumentation; emphasis now must be placed on strengthening SAO's observational staff which presently consists of three observational astronomers. (Nine other astronomers on the staff devote most of their time to the building of astronomical instruments.) To strengthen the observational staff, three new positions are sought for two extragalactic and one infrared astronomer. Funds of \$60,000 to support these positions are available from within the MMT base. These funds, needed for instrumentation and other expenses while the MMT was being developed, can now be used to hire more observational astronomers.

Additional funds in the amount of \$84,000 are requested for the purpose of establishing a detector program which would have broad applications in several disciplines, such as high-energy astrophysics, optical and infrared astronomy and solar and stellar physics. Since it is neither practical nor cost effective to build a new telescope or a new instrument each time there is a need to be able to collect more light or energy in order to make observations of fainter and/or more distant astronomical objects, other methods must be found. Fortunately, one such method does exist and it is one which is both practical and cost effective. The method focuses on improving the very basic element in the telescope instrument system--the detector. Detectors are devices which convert visible light and infrared radiation into electrical signals which are then processed and analyzed to extract the desired information. As a result of their greater sensitivity, detectors have replaced photographic plates in many applications. Further, detectors can be assembled into mosaic-like arrays which can then be used to provide photographic-like images. Major advances have been made in the last decade in improving detector sensitivity and technology; these doubled the sensitivity of telescopes built ten or more years ago. This increase in sensitivity has allowed observations to be made farther out into the universe and, as a result, objects that were not known to have existed now can be observed. Such observations are expected to provide information which could lead to greater insight into the origin and evolution of the universe. To remain in the forefront of observational astronomy it is essential that SAO implement a continuing program in the area of detector development that will have application across the relevant scientific disciplines. The funds requested would be used to purchase state-of-the-art detectors, to fabricate detector arrays, to construct signal processing electronics, such as amplifiers, and to support basic research in the area of detector development.

One new position is requested to convert an upward mobility position into a full-time permanent position. The upward mobility candidate will be completing her program before December 1980 at which time she will be assigned to the position of personnel clerk. As a result of the importance of this program, SAO will apply \$17,000 of its base funds to support this position.

SAO RESEARCH HIGHLIGHTS AND OTHER DEVELOPMENTS

Accomplishments in FY 1979

- Public opening of the joint Smithsonian/University of Arizona Multiple Mirror Telescope facility at Mt. Hopkins in Arizona.
- Launch and successful operation of the Einstein satellite carrying the first high resolution telescope capable of focusing images of x-ray sources.
- Reduction and analysis of x-ray data from the Einstein satellite, and coordination of the guest investigator program for the Einstein satellite.
- Continued studies of conceptual designs of instruments and the development of an x-ray space telescope facility.
- Design and construction of instruments for use with MMT and other telescopes.
- Successful balloon flight on an infrared spectrometer developed by SAO for use on the balloon borne telescope facility jointly operated by SAO, Harvard, and the University of Arizona.
- Continued improvements on the hydrogen maser with anticipated increases in stability and performances.
- Continued successful operation of the laser tracking network.
- Continued design and development of a small, helium-cooled infrared telescope planned for flight on the Spacelab II mission of the Space Shuttle. Launch is now scheduled for September 1982.

Accomplishments in FY 1980

- Observations with a rocket-borne Lyman Alpha Coronagraph to provide information on the EUV (extreme ultraviolet) solar corona in the acceleration region of the solar wind.
- Publication of a solar atlas emphasizing the interaction of the solar wind and earth's stratosphere.
- Precision orbital-tracking of low-orbit satellites for the improvement of gravity-field models of the earth and oceans.
- Initiation of analytical development of a space-borne tether system for a possible shuttle experiment for in situ measurements of gravity-field gradients and electrodynamics.
- Continued operation of the Einstein satellite, reduction and analysis of data, and operation of the guest investigator program.
- Continued design of instruments and telescope for a space-borne x-ray facility.
- Initiation of design and construction of a Lyman Alpha Coronagraph for an experiment to be flown on the Space Shuttle. The purpose of the experiment is to make solar wind measurements.
- Initiation of definition studies for a Spherical Imaging Spectrometer for possible flight aboard a Space Shuttle mission. The instrument will be used for observing x-ray emitters to obtain a better understanding of the processes associated with such astronomical objects.
- Initiation of design and construction of a Large Area Modular Array of Reflectors (LAMAR) for x-ray observations aboard the Space Shuttle. LAMAR is an array of small x-ray telescopes which will be used to observe objects which emit x-rays.

- Initiation of studies for a reflight of the small, infrared telescope aboard a future Space Shuttle mission. The purpose of the mission will be to map infrared sources.
- Participation of SAO scientists with scientists from industry and MIT for design for instruments for plasma physics and for radio astronomy that would be flown aboard future Space Shuttle missions.

Plans Anticipated for FY 1981

- Establishment of a detector development program which is anticipated to have wide application.
- Completion of construction of the MMT, i.e. installation of the wind screen and the cooled floor.
- Attainment of full operational status of the MMT.
- Continued development of instruments for the Space Shuttle.
- Continued development of instruments for the MMT.
- Completion of system for operating the VLBI network from a single location and initiation of the operational assessment of the system.
- Continuation of the IR (infrared) balloon-borne telescope flight program.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are provided from allotments and are used to support the administrative positions and other administrative costs of SAO. These costs are recovered almost entirely from overhead charged on grants and contracts. Funds also are used for travel and related costs of small, individual research grants and scientific lectures and meetings hosted by the Observatory. Beginning in FY 1980, funds for Fellowships and Visiting Scholars, shown here in FY 1979, are included in the nonappropriated Trust funds section of Academic and Educational Programs. This is in recognition of the fact that SAO Fellowships and Visiting Scholars, like all Smithsonian fellowship offerings, are the direct responsibility of the Office of Fellowships and Grants for policy and management purposes.

Restricted Funds - Funds provided here are in the form of restricted endowments and foundation grants which specify the use of the donation or bequest and of gifts provided by organizations or corporations for specific purposes. Generally, the funds provide support for a particular project. Examples include the Sprague Endowment Fund which provides for meteoritic studies (projected expenditures of \$45,000 in FY 1980 and \$41,000 in FY 1981) and the Becker Endowment Fund for studies in the field of geophysics (projected expenditures of \$90,000 in FY 1980 and \$69,000 in FY 1981).

Federal Grants and Contracts - SAO receives substantial funding from federal agency grants and contracts for work which is integrated fully with both governmental and academic institutions in the United States and abroad. Funding comes from the National Aeronautics and Space Administration for space science projects, particularly in the high-energy astrophysics and geoastronomy/radio astronomy divisions. Some funding from other federal agencies, such as the Naval Research Laboratory and the Air Force, is received to support specific projects in areas of SAO's expertise. The projected expenditure increase over the FY 1979 base, an increase of \$765,000 to bring the total funding in this category to \$10,300,000 in FY 1980 and an increase of \$2,800,000 over FY 1980 to bring the total to \$13,100,000 in FY 1981, are based on anticipated funding, primarily for the high-energy astrophysics division, from the NASA Shuttle Program and a follow-up satellite project to the HEAO-B (Einstein Observatory) space experiment.

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
			FTP*	Amount	FTP*	Amount				
FY 1979 Actual	71	2,025	1	55	--	133	--	26	--	1
FY 1980 Estimate	75	2,166	2	45	--	33	--	80	--	--
FY 1981 Estimate	87	2,772	2	48	--	29	--	40	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	75	12	87
Number of Other Positions.....	7	0	7
11 Personnel Compensation.....	1,373	199	1,572
12 Personnel Benefits.....	217	139	356
21 Travel & Trans. of Persons....	56	12	68
22 Transportation of Things.....	15	1	16
23 Rent, Comm. & Utilities.....	117	12	129
24 Printing and Reproduction....	16	6	22
25 Other Services.....	129	100	229
26 Supplies and Materials.....	223	45	268
31 Equipment.....	20	92	112
TOTAL	2,166	606	2,772

Analysis of Increase

Necessary Pay.....	31
Inflation.....	44
Program Funds.....	531

ABSTRACT - The Smithsonian Tropical Research Institute (STRI), located in the Republic of Panama, is the United States' leading basic tropical biology research center. The Institute's goals are to conduct and promote advanced and basic original research studies in the biology of tropical organisms and to increase and diffuse knowledge of their ecology, behavior and evolution. In addition to fundamental research, STRI has the responsibility of promoting and developing environmental awareness and conservation of tropical environments through an active public education program.

During the next few years, STRI will be subject to substantial changes resulting from the implementation of the Panama Canal Treaty. The impact of changes such as the designation by both governments of STRI as the custodian of the Barro Colorado Nature Monument, the increase in the size of the nature monument, the application of Panamanian labor laws, customs, and so forth, cannot yet be completely assessed. Nevertheless, STRI's scientific mission will remain the same as reaffirmed by the exchange of two ancillary notes to the



THE BARRO COLORADO NATURE MONUMENT



Under Smithsonian administration since 1946



Additional areas, assigned to Smithsonian custodianship under the new Panama Canal treaty

Treaty which guaranteed the continued and indefinite use by the STRI of all its scientific facilities and granted the Institute exclusive custodianship of over 12,000 acres of tropical lowland forest. The concession of this large area to the Smithsonian Institution is a measure of the importance placed by both nations upon the fundamental tropical research performed at STRI. It should be noted that the United States has no other true tropical continental environments under our flag. Puerto Rico and Hawaii are tropical islands and consequently contain only the limited animal and plant diversity common to insular habitats.

For FY 1981, an increase of 12 additional positions and \$531,000 is sought as follows: (1) 12 positions and \$472,000 are requested to defray expenses resulting from the implementation of the Panama Canal Treaties and associated agreements in the area of administration, security, education and conservation; and (2) \$59,000 are requested to provide urgently needed maintenance services at several locations at STRI. Necessary pay in the amount of \$31,000 is required for existing staff and an amount of \$44,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The tropics are considered to be the "cradle of life." Studies conducted there are aimed at learning about the evolution of life. By studying organisms in complex tropical environments, a better understanding of life in temperate zones is gained as well. Life on this planet represents a continuous interacting spectrum from one polar region to the other. Unfortunately, the tropics are little understood, having received relatively little attention from scientists, in spite of the fact that human population is growing at a faster rate in this region than anywhere else. This growth is threatening the tropics before they have been adequately studied and methods must be derived to protect this heritage of tropical diversity.

The scientists at the Smithsonian Tropical Research Institute are seeking to gain an understanding of the evolution of tropical organisms; of their ability to compete for limited space; of their reproductive strategies; of their resistance to change; and of their short-term, annual and long-term life cycles. These studies will lead to hypotheses on the organization and interaction of ecosystems and will produce new concepts of how to deal with behavior of living organisms. The dynamics of the structure of tropical forests continues as a focus of study on Barro Colorado Island. Another study, based on the unique geographical position of the Isthmus of Panama, has brought together animals that have been separated for millions of years, and has allowed scientists to observe the ways in which they interact. STRI marine biologists have completed a project that will contribute to our understanding of the potential effects of the construction of a sea-level canal in Central America. Jenneria pustulata is a small gastropod that feeds on live coral. It is prevalent on the Pacific Coast of Panama, while completely absent from the Atlantic. What would happen if this coral-eating snail were introduced into the Atlantic as a result of a sea-level canal? Laboratory experiments have demonstrated that Jenneria will eat Atlantic corals, and field experiments, under controlled conditions, have proven that many more Jenneria were eaten by predators on the Pacific than on the Atlantic. Jenneria do not have as many enemies on the Atlantic, it is possible that once introduced there they would be able to increase their population sizes to the detriment of Atlantic coral reefs. These studies may soon take on a practical implication since the Governments of Japan and Panama have begun negotiations for a joint effort to construct a sea-level canal.

The position of the Isthmus also has stimulated a number of investigators during the past year to ask the following questions: Does evolution proceed at a constant rate in all animals; is genetic diversity a function of time rather than selective pressure? Since most related marine organisms found on both coasts of the Isthmus have been separated for the same amount of time, Panama is an ideal place to examine these issues. Electrophoretic techniques which enable STRI scientists to determine the degree of genetic differences between species have been applied to Atlantic-Pacific pairs of fishes, crabs and sea urchins. The data gathered from these independent studies will help provide more comprehensive and conclusive information about what has happened since the Isthmus of Panama separated the Atlantic and Pacific Oceans.

Africanized (killer) honeybees continue to spread northward from South America and should reach Panama in 1980. STRI ecologists and behaviorists have been working on the ecology and pollinating habits of those native bees and other pollinators with which the invading bees are most likely to compete. Africanized bees are reported to be very effective in excluding native bees from nest sites. A real danger exists that the Africanized bees may expell native bees yet fail to adopt the essential role of pollinating those plants which formerly were visited by native bees. If this happens, a possible extinction of some indigenous plants could result, with profound impact on agriculture and native vegetation. The establishment of baseline studies at STRI will permit a better understanding of the competition among these pollinators, ultimately leading to a better assessment of the impact that such invasions will have on the eventual economics of pollination in the North American continent.

While STRI is a basic research organization, its geographic position in an area of continued major environmental changes allows it to contribute knowledge and leadership toward the promotion of conservation and sound environmental policy. STRI's work in these areas is in keeping with the environmental protection clauses of the Panama Canal Treaty. Activities include: advising the U.S. Department of the Interior and the Ecuadorian Government on the planning of a park and biological research station in the Yasuni River in the Amazon River Basin in Ecuador; providing advice and cooperation to the former Panama Canal Company in the composition and enactment of the Panama Canal hunting regulations; advising the U.S. Agency for International Development (USAID) regarding their proposed programs to protect and rehabilitate the Canal watershed basin, and to other Panamanian agencies on the problem of transshipment of North Slope oil; advising a binational committee conducting a survey of the extent of the illegal agriculture in the forested areas of the Canal watershed; assessing, for the Panamanian hydroelectric authority, the environmental impact of a proposed project along the Atlantic Coast of Panama; and advising the Panamanian Audubon Society on the compilation of vertebrate species lists of the new national park located in the old Canal Zone areas.

EXPLANATION OF PROGRAM INCREASE - An increase of 12 positions and \$531,00 is requested for FY 1981. The requirement for 12 new positions and \$472,000 stems from the additional responsibilities that STRI has assumed as a result of the Panama Canal Treaties and associated agreements. An additional amount of \$59,000 is requested for various essential maintenance services.

Treaty-related requirements - During the next few years, STRI will continue to be subject to operational changes stemming from the implementation of the Panama Canal Treaties and the creation of new laws by the government of the Republic of Panama. The most profound changes now envisioned are in the areas of administration and security. They also are occurring in the areas of conservation and research.

Administration - For FY 1981, an increase of three positions and \$191,000 is requested to help the Institute meet its administrative responsibilities resulting from the enactment of new laws and interpretation of the Treaties and related documents as well as the phasing out of services previously available from the Panama Canal Commission and the Department of Defense. The three positions and \$33,000 will allow the hiring of a personnel management specialist to enable STRI to operate smoothly under two sets of labor codes (U.S. and Panamanian); a procurement clerk to offset the workload increase resulting from the need to purchase materials from local stores and warehouses (formerly these materials were available from the Panama Canal Company); and a maintenance worker to provide general maintenance and security services which had been provided by the Panama Canal Company but are no longer available under new lease arrangements with the Panama Canal Commission.

An amount of \$119,000 is required for personnel benefits as authorized under the new personnel system in conformance with the Department of State regulations and for projected Department of Defense school tuition increases for STRI dependents. These benefits compensate for the losses of the 15 percent tropical differential and the Canal Zone commissary and post exchange privileges. (A total of \$141,000 is required for these personnel benefits; however,

an amount of \$22,000 appropriated in FY 1980 for fencing of the Barro Colorado Island Nature Monument will be redirected in FY 1981 toward this need.) An additional \$39,000 is needed as follows: \$8,000 in travel funds to defray expenses associated with the fulfillment of Overseas Travel Renewal Agreement commitments to new staff members and to enable STRI to fulfill a Treaty requirement to establish closer program and administrative ties between STRI scientists and administrators of the Smithsonian Institution, U.S. Department of State, U.S. Department of Interior, and different Latin American countries; \$20,000 for the painting of all buildings in compliance with a Panamanian law requiring compulsory painting of all buildings every two years in the District of Panama; \$8,000 for the purchase of supplies which are only now available locally; and \$3,000 for increased postage costs.

Security - For FY 1981, a total increase of eight positions and \$239,000 is sought to enable STRI to meet vastly enlarged security requirements resulting from the Treaties.

Under the Panama Canal Treaty, Barro Colorado Island (BCI) was designated as a Nature Monument under the terms of the 1940 Western Hemisphere Convention of Nature Protection and Wildlife Preservation. The Smithsonian Tropical Research Institute was further designated as custodian of BCI by both governments, with sole responsibility for authorization of its use. The mainland peninsulas in Gatun Lake--Bohio, Buena Vista and Frijoles--will fall under the authority of the joint U.S.--Panamanian commission and these areas will be available to the Smithsonian "...during the life of the Panama Canal Treaty...through the issuance of land use licenses, as provided for in Article IV of the Agreement on Implementation of Article II of the Panama Canal Treaty." Additionally, two peninsulas on the westbank south of Maiz Island will be leased to STRI by the Panamanian Government. After 1999, these peninsulas will also become part of the Barro Colorado Nature Monument.

The security and use of the Nature Monument has become one of STRI's principal conservation responsibilities. The area of the expanded Barro Colorado Nature Monument has been increased from 3,900 acres to 12,000 acres. An increase of eight positions and \$179,000 is required for STRI to secure the BCI Nature Monument. Funds, of \$117,000 would be used to hire a resident naturalist to supervise all security functions for the Nature Monument and seven game wardens to patrol this large area. The remaining \$62,000 would be used to purchase safety and security equipment, and two new patrol boats to provide surveillance of the Barro Colorado Nature Monument.

Under the Panama Canal Treaties, the Panama Canal Commission Police will be eliminated after a transition period of 30 months. Besides the Barro Colorado Island and the Barro Colorado Nature Monument, the Institute has additional facilities at widely separated locations throughout the Isthmus: at Ancon, Galeta, Tivoli, San Blas and the Naos Marine Complex. The facilities at these sites, including research laboratories, libraries, administrative offices, maintenance shops, piers and a research vessel represent over eight acres of land and 16 structures. An amount of \$60,000 is requested to provide for the purchase and installation of protection alarm devices and to obtain necessary guard services on a contractual basis.

Conservation and Education Research - A total of one position and \$42,000 is requested to help STRI meet its expanded responsibilities in these areas. Funds of \$26,000 are sought for the salary of an educational coordinator who is responsible for the preparation of environmental materials to be used in conjunction with the new nature monument and the Panamanian National Park. (The position for the educational coordinator was made available to STRI in FY 1978 by the transfer of a vacant position from the Office of the Assistant Secretary for Science.) One position and \$12,000 is sought to provide clerical support to the education coordinator. An amount of \$4,000 is requested for publications costs associated with the translation and publication of conservation education materials into the Spanish language.

Maintenance Requirements - Because of its outlying location, STRI must maintain its own facilities, a research vessel and launches, and service vehicles in support of its scientific mission. (The Office of Plant Services provides equivalent services for Smithsonian units located in Washington, D.C.) STRI's maintenance efforts are made more difficult because of

the geographic dispersion of its facilities and the tropical environment which exacts an enormous toll on facilities and equipment. An amount of \$59,000 is sought for essential maintenance services and supplies, including dry docking of STRI's research vessel and launches at Panama Canal Commission facilities and for periodic maintenance of service vehicles; the stocking of spare parts to alleviate delays in repairing vehicles due to the difficulty in obtaining replacement parts; and contractual services for specialized repairs to equipment, and janitorial services.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from a variety of sources, including receipts and collections from users of Barro Colorado Island facilities, and allotments, particularly those from the Institution's Collections Acquisitions, Research and Education Program. Expenditures by the Smithsonian Tropical Research Institute under that Program totaled \$72,000 in FY 1979, and supported field research, fellowships, training in tropical biology, and an environmental training seminar for teachers. Expenditures under the Collections Acquisitions, Research and Education Program have been recorded for FY 1979, but not yet for FY 1980. This explains the variance in the totals shown between FY 1979 and FY 1980 and FY 1981. The Smithsonian Tropical Research Institute can, however, expect to receive and spend funds made available through this Program in FY 1980 and FY 1981. Other funds provided are used also to finance field research, seminars, and lectures; to support scholars from outside the Smithsonian who are conducting research at the Institute; and to defray the costs of representational expenses at international scientific colloquia and ceremonial occasions.

Restricted Funds - Funds provided here are in the form of restricted endowments which specify the use of the donation or bequest and of gifts and foundation grants by individuals, organizations or corporations for specific purposes. These funds are used to support scientific research related to geophysical events and to support studies relating to endangered tropical environments. For example, the Becker Endowment Fund supports research on the follow-up of a natural reforestation of an earthquake devastated forest on the Colombian/Panamanian border (estimated expenditures of \$12,000 in FY 1980 and \$15,000 in FY 1981). Grants from the "Rare Animal Relief Effort" and the "Nature Conservancy" support research for the establishment of a nature education center in a pipeline construction area of the Republic of Panama (estimated expenditures of \$17,000 in FY 1980 and \$15,000 in FY 1981).

Federal Grants and Contracts - No new grants or contracts are anticipated for FY 1980 and FY 1981.

RADIATION BIOLOGY LABORATORY

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	48	1,714	--	--	--	36	--	18	3	104
FY 1980 Estimate	49	1,873	--	--	--	1	1	30	3	100
FY 1981 Estimate	49	2,008	--	--	--	1	1	22	3	100

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	49	0	49
Number of Other Positions.....	0	1	1
11 Personnel Compensation.....	1,050	25	1,075
12 Personnel Benefits.....	105	2	107
21 Travel & Trans. of Persons....	14	1	15
22 Transportation of Things.....	2		2
23 Rent, Comm. & Utilities.....	252		252
24 Printing and Reproduction.....	2	1	3
25 Other Services.....	60	5	65
26 Supplies and Materials.....	198	32	230
31 Equipment.....	190	69	259
TOTAL	1,873	135	2,008

Analysis of Increase

Necessary Pay.....	18
Inflation.....	47
Program Funds.....	70

ABSTRACT - Light is a major factor in the environment for controlling the growth and development of plants. The Radiation Biology Laboratory (RBL) monitors the quality, duration, and intensity of light in the natural environment, developing multi-year data banks of seasonal and annual trends. In addition, the Laboratory pursues the identification of the pigments in plants and animals responsible for the absorption of light. Using controlled environments that simulate natural light conditions, the nature and extent of the influence of light on biological systems can be determined. There is a continuing increase in requests from scientists, research institutions and the general public for such data in regulatory biology, environmental biology, and radiocarbon dating. For FY 1981, an increase of \$70,000 is requested, consisting of an amount of \$20,000 for a part-time greenhouse technician who will assist in the growing of experimental plants and for materials associated with the greenhouse; and funds of \$50,000 for the purchase of a circular dichroism spectrophotometer to be used to obtain new data concerning the molecular structure of

pigments. Necessary pay of \$18,000 is required for existing staff and an amount of \$47,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The research of the Laboratory consists of three principal areas:

(1) regulatory biology, (2) environmental biology, and (3) radiocarbon dating. Since its inception in 1929, RBL has pioneered research into the determination of the color quality and quantity of visible and near-visible sunlight, coupled with measurement of its influence on growth. The present experimental program is of greater scope than in any other single laboratory in the world. The Laboratory has been credited with major contributions in the field of photobiology, with several first achievements in action spectroscopy, and with the development of primary standards for the measurement of solar energy.

The production of stored chemical energy by photosynthesis is basic for all life on earth. The use of this energy is controlled by signals from the environment. The primary objective of the Radiation Biology Laboratory has been to explain the influences of the various factors in the environment--light, temperature, humidity, and atmospheric content--on growth and development and to characterize the molecular mechanisms through which these signals operate.

This aim is accomplished by studying these environmental influences on plant growth and development in the Laboratory under controlled conditions, using biochemical, biophysical, and physiological techniques, and then verifying the importance of these processes in nature by monitoring the natural changing environment. An example of a response to relevant environmental concerns has been the measurement of the biological productivity of an estuarine marsh in the Chesapeake Bay. Measurements also have been initiated to determine the penetration of sunlight into an aquatic environment in the Bay and, similarly, through a tropical forest canopy in Panama. These data can be used to assess the productivity of these diverse natural environments and to provide predictive estimates of their responses, either artificial or natural, to changes in the environment. Such programs of research are by their very nature long-term and require the concerted team efforts of many scientific disciplines. Disciplines represented at RBL include physiology, cytology, biochemistry, biophysics, physics, engineering, electron microscopy, and morphology.

Major accomplishments in FY 1979 include the following:

1. Observation that measured variability in the near-ultraviolet content of sunlight (UV-B) cannot be explained by ozone fluctuations alone, but are closely associated with weather changes and air pollution.
2. Demonstration that increased photosynthetic utilization of very short light flashes (less than 100 milliseconds) is attributed to better light penetration within the plant canopy, rather than to increased utilization at the molecular level.
3. Observation of the presence of a binding site specific for flavin-like molecules on the regulatory plant pigments phytochrome, suggesting that these molecules may be involved in the primary action of this pigment in controlling growth.
4. Hypothesis that water transport was used in Alaska by man as early as ten thousand years ago. This has been indicated through studies of Alaskan geologic, cultural and climatic chronologies. Similarly, geologic and climatic histories of at least one area of southern interior Labrador indicate, contrary to accepted current thought, that it may not have been covered by the last major ice advance.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of \$70,000 is requested. To provide the daily care and maintenance of experimental plants grown in a greenhouse provided to RBL by the U.S. Navy, a part-time greenhouse technician and \$10,000 are sought, including \$1,000 for travel between the greenhouse and the Laboratory. The greenhouse, a facility which is integral to the research programs of RBL, is located in Bethesda. A

further \$10,000 is requested for the supplies and materials associated with the greenhouse, such as irrigation systems, timelocks for automatic lighting, and waterproofing maintenance to the glass roof.

An additional amount of \$50,000 is sought to purchase a circular dichroism spectrophotometer used to measure the optical properties of molecules, thereby providing information specifically needed to determine and characterize the molecular structure. The circular dichroism spectrophotometer will be used to measure the light absorption properties of pigments, which is important in determining the role of light in plant growth, particularly in determining the relative growth pattern of agricultural crops under various controlled light conditions. Presently, RBL is conducting experiments with salad-type plants such as lettuce, tomatoes, cucumbers, onions, and beans, with a view toward increasing the efficiency with which these plants utilize light. With more efficient use of light, it will be possible to increase greatly the productivity of the growth of these plants.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Beginning in FY 1980, funds for Fellowships and Visiting Scholars, shown here in FY 1979, are included in the nonappropriated Trust funds section on Academic and Educational Programs. This is in recognition of the fact that RBL Fellowships and Visiting Scholars, like all Smithsonian fellowship offerings, are the direct responsibility of the Office of Fellowships and Grants for policy and management purposes.

Restricted Funds - Funds are provided here in the form of restricted endowments and foundation grants which are designated for specific subjects of investigation. For example, the Eppley Foundation grant is used to support investigation of biological responses to solar radiation (projected expenditures of \$17,500 in FY 1980 and in FY 1981); the Rollins Endowment Fund is used to support the study of the physical measurements of radiation (projected expenditures of \$4,500 in FY 1980 and in FY 1981); and other contributions are used to support research conducted jointly by the Museum of Natural History, the Chesapeake Bay Center and RBL for determining the relation of light penetration and productivity in the Chesapeake Bay (projected expenditures of \$8,000 in FY 1980).

Federal Grants and Contracts - These funds are provided by various agencies and departments for special projects that can be conducted at RBL because of its specific expertise and unique facilities. Examples of Federal contract support are the Department of Energy's support of research on membrane-associated pigments of algae involved in photosynthesis (projected expenditures of \$26,000 in FY 1980 and in FY 1981) and support of the project in which flashing light is used to study the rate of photosynthesis in plants. (projected expenditures of \$67,000 in FY 1980 and in FY 1981). A contract from the National Aeronautics and Space Administration supports a study measuring ultraviolet radiation received at the earth's surface which is correlated with the effects of material degradation due to exposure to sunlight (projected expenditures of \$3,000 in FY 1980 and in FY 1981). RBL anticipates this level of funding to remain relatively constant.

NATIONAL AIR AND SPACE MUSEUM

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	225	5,363	--	40	9	1,192	7	167	--	82
FY 1980 Estimate	223	6,027	--	12	22	1,196	9	321	5	181
FY 1981 Estimate	223	6,211	--	15	21	1,102	9	345	3	176

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	223	0	223
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	4,154	67	4,221
12 Personnel Benefits.....	398	15	413
21 Travel & Trans. of Persons....	39	1	40
22 Transportation of Things.....	16	1	17
23 Rent, Comm. & Utilities.....	47	3	50
24 Printing and Reproduction....	167	11	178
25 Other Services.....	680	-9	671
26 Supplies and Materials.....	309	79	388
31 Equipment.....	217	16	233
TOTAL	6,027	184	6,211

Analysis of Increase

Necessary Pay.....	82
Inflation.....	102
Program Funds.....	0

ABSTRACT - The National Air and Space Museum (NASM) was created by Congress to memorialize the development of aviation, space flight and space science; to collect, preserve and exhibit aeronautical, space flight and space science artifacts of historical and technical significance; to conduct research; and to serve as a repository for documentary materials and art relating to aeronautics and space flight. No program increase is requested for FY 1981. Necessary pay in the amount of \$82,000 is required for existing staff and an amount of \$102,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The National Air and Space Museum has been visited by more than 35,000,000 persons since it opened to the public on July 1, 1976. NASM conducts active programs in the areas of exhibitions, research, education, and collections management. These programs have produced very exciting results in a short span of time; plans for FY 1980 and FY 1981 promise to add to the excitement of the Museum and the vitality of its programs. The

Museum's popularity has been sustained by the creation of new exhibits which relate to the past, present and future. Each exhibit is designed to reach various segments of the public through carefully researched, written and designed labels. Furthermore, many exhibits involve the active participation of the individual visitor.

A new gallery, "Early Flight," due to open in 1980, will offer visitors the sense, sight and sound of a pre-World War I aeronautical salon. This gallery details the intense competition and rapid progress of the early days of flight, a subject not covered previously in the Museum. At the opposite end of the aeronautic spectrum, a Gallery of Jet Aviation will open in early 1981. This exhibit will trace the evolution of military and commercial jet aviation and will explain the underlying technology, and the effects of aviation on society.

Complementing major gallery activity in FY 1980 are several important additions to existing galleries. These include the installation of the Viking Lander in the "Milestones of Flight" Gallery; a weather watch unit showing up-to-date weather developments in the United States as part of the Satellites Gallery, which will introduce visitors to the use of satellites in weather forecasting; an updated exhibit on the space shuttle program in the "Space Hall," another "People Exhibit," in the "Pioneers of Flight" Gallery, featuring the contributions of John Northrop and Donald Douglas; the installation in the "Balloons and Airships" Gallery of the "Double Eagle II," the first balloon to cross the Atlantic, and the animated sculpture of a fanciful air and space vehicle by artist Rowland Emett.

During FY 1980, the Museum will open a "Briefing Room" which will feature live presentations and demonstrations of air and space technological matters which are difficult to explain in a conventional exhibit. It also will introduce visiting school children to the museum experience; provide information about the careers in aviation; and further the understanding of the human and technical accomplishments memorialized in NASM. Special emphasis will be placed on reaching minority and ethnic groups.

In FY 1979, a second IMAX film "Living Planet" joined the very successful "To Fly" in the Museum theater. Over 5,500,000 persons have attended these films since the Museum's opening. In the Albert Einstein Spacearium, the new presentation "Worlds of Tomorrow" has been very well received. The next major presentation of the Spacearium, "New Eyes on the Universe," will be opened to the public in mid-1980.

A sense of involvement is maintained at the Museum by an extensive series of programs offered to the public. In FY 1980 this includes a highly acclaimed symposium celebrating the 40th anniversary of jet aviation; a continuation of the noontime astronomy presentations; and in a nostalgic vein, the continued presentations of classic feature aviation and space fiction films. Symposia on "Black Aviators of World War II" and on "Women in Aviation" will be held early in 1980.

In FY 1981, the existing "Satellites Gallery" will be revised and updated in order to keep pace with the progress in modern satellite technology. The ever-expanding services of communication satellites, earth resources satellites, meteorological satellites, navigational satellites and scientific satellites will be made clearer to the visitor.

Also in FY 1981, the "Flight in the Arts" Gallery will mount a new exhibit showing what has been acclaimed as the world's finest collection of photorealist art. Additionally, an exhibit of the prophetic space travel-related paintings of Chesley Bonestell will be opened. There will be a major "People Exhibit" featuring James Webb, famed NASA administrator, space program manager, and technological statesman; a "mini exhibit" on Aerial Aircraft Carriers; and numerous participative and instructive exhibit units.

The Museum's major research entity, the center for earth and planetary studies, continued its varied programs in lunar, planetary, and earth-related research during FY 1979. There is a significant correlation between terrestrial features and those found on the moon and on planets such as Mars. With the aid of computers, scientists can develop interpretations which shed light on geologic history. In a similar way, researchers can study and

classify surface features of planets, using satellite photographs to interpret their origins and to determine similarities or differences in the history and evolution from a geomorphological viewpoint.

Desert and planetary studies, which will be conducted in FY 1980, will add to the existing body of knowledge and serve as an important basis for interpretation of the desertification process that is occurring in many areas of the world. A significant new effort in FY 1981 will be the use of a LaBarge Meteorological Station to provide real-time meteorological data from satellites orbiting the earth, demonstrating the current state-of-the-art in satellite monitoring of environmental data.

Two other areas of research have received intensive data. In FY 1980, historical research has resulted in the publication of a number of books, including The Jet Age; The XP 80 Shooting Star; High Technology on Earth: Studies in Using Aerospace Systems and Methods; and Apollo-Soyuz Test Project Summary Science Report Vol. II: Earth Observations and Photography. In FY 1981, works planned for publication are Messerschmitt Me 262 - An Arrow to the Future; Albatros D. Va; A Study of Hale and Congreve Rockets; U.S. Women in Aviation, 1930-1939; and In the Cause of Flight: Technologists of Aeronautics and Astronautics.

The Museum is currently undertaking a careful review of the areas of scientific research most appropriate to its resources, and is establishing a basis for future work in astronomy, remote sensing, planetary atmospheres and other space science areas.

In FY 1980, NASM's developing education program completed a 63-unit filmstrip program. This program captures the essence of the history and technology of aeronautics and space flight for a wide audience by relating the key events to Museum exhibits. These filmstrips will be distributed to educational institutions across the country.

The collections management effort will be maintained in FY 1980 with the current inventory expected to be substantially completed by the end of FY 1981. The inventory system has already provided economic benefits in storage and retrieval, by allowing greater storage capability in less amount of space. Moreover, as a result of using an automated process, retrieval of objects may be accomplished within minutes. The Museum's modern microfiche program is providing better preservation and storage and also is facilitating responses to the inquiries of researchers.

Work at NASM's Suitland facility in Silver Hill, Maryland is continuing. The Messerschmitt Me 262 (German jet of World War II), the Bleriot, Curtiss Pusher, and Gallaudet Glider were restored during FY 1979. The Langley Aerodrome is nearing completion and work continues on the Bellanca CF, Chance Vought F4U Corsair, Northrop NIM flying wing and a Japanese twin engine fighter, code-named "the Irving."

A fourth building was opened for tour at Silver Hill during FY 1979, and a fifth will be prepared for opening during FY 1981. In connection with this expansion, more effort has been placed on the preservation, assembly and exhibit of artifacts.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from a variety of sources including the Museum's share of sales in the museum shop, royalties, restaurant and concession fees, gross proceeds resulting from Museum revenue-producing activities (such as the Theater and Spacearium), and small allotments. In addition to meeting the expenses of the Theater and Spacearium, these funds are used to finance operational costs of fellowships, the publication of books and a bi-monthly newsletter, guest lectures, and special events for the opening of new exhibits. An amount of \$100,000 is provided annually to endow the "Lindbergh Chair in Aerospace History" which is awarded to a distinguished scholar each year. In addition, a portion of the net proceeds from the Theater and Spacearium activities is being reserved in a fund for eventual replacement of the film "Living Planet."

Restricted Funds - Restricted funds are provided for specific purposes through donations and foundation grants by individuals, organizations and corporations. Examples of these funds include the German Planetarium Fund used to purchase additional equipment and to provide maintenance parts for support of the Zeiss Planetarium machine, originally donated by the German government (estimated expenditures of \$45,000 in FY 1980 and \$47,000 in FY 1981); the Ramsey Endowment Fund which finances selected research relating to naval flight history (projected expenditures of \$21,000 annually); and various gifts which are used primarily to support lectures, symposia and publications.

Federal Grants and Contracts - These funds are provided by various agencies and departments for special projects which can be conducted at the National Air and Space Museum because of its special expertise. For example, studies in lunar and planetary research in photogeology are conducted by NASM's Center for Earth and Planetary Studies under a grant from the National Aeronautics and Space Administration (estimated expenditures of \$90,000 in FY 1980 and \$100,000 in FY 1981).

CHESAPEAKE BAY CENTER FOR ENVIRONMENTAL STUDIES

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	22	672	1	259	--	114	--	4	--	152
FY 1980 Estimate	21	736	1	76	--	21	--	--	16	325
FY 1981 Estimate	22	956	1	80	--	20	--	--	15	300

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	21	1	22
Number of Other Positions.....	0	5	5
11 Personnel Compensation.....	514	122	636
12 Personnel Benefits.....	50	12	62
21 Travel & Trans. of Persons....	8	1	9
23 Rent, Comm. & Utilities.....	32	2	34
24 Printing and Reproduction....	5	1	6
25 Other Services.....	47	28	75
26 Supplies and Materials.....	60	32	92
31 Equipment.....	20	22	42
 TOTAL	 736	 220	 956

Analysis of Increase

Necessary Pay.....	8
Inflation.....	12
Program Funds.....	200

ABSTRACT - The Chesapeake Bay Center for Environmental Studies (CBCES) is a 2,600 acre natural area established to conduct research on land/water relationships and to foster public awareness and understanding of ecological systems as they might be affected by human disturbance. The Center's activities are divided into three categories: environmental research, education and public information, and administration and facilities management. For FY 1981, one new position and an increase of \$200,000 is requested. These resources will permit the continued operation and maintenance of a watershed monitoring system which measures how changes in land use over a period of years affect water quality. Necessary pay in the amount of \$8,000 is required for existing staff and an amount of \$12,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - Environmental Research: The Center's environmental research program is designed to develop an understanding of the functioning of a watershed/estuary ecosystem

and to determine the effects of environmental change on natural and human communities in this system. The program has three principal elements: upland ecology, watershed studies and estuarine ecology.

Upland Ecology - This program has as its goal the understanding of the evolutionary ecology of plant and animal populations as they are affected by existing and past land use practices. The Center has established permanent study plots on land use types characteristic of the eastern coastal plain. These are being compared for their ecological properties. In addition, changes in land use since the time of the first settlement in the mid-1600s are being documented. This work is being done to assess how historical land use influences present-day communities and what changes can be expected in the future. In FY 1979, Center scientists focused their efforts on a study of the effects of forest size and isolation on certain bird populations. An alarming decline has been observed in recent years in the number of migrant neotropical birds breeding in deciduous forests throughout the eastern United States. Findings indicate that many of the species require that forests be of some minimum size for breeding and that their decline may be due, in part, to the conversion of the landscape into small, isolated forest patches.

Upland Ecology Projects Anticipated for FY 1980

- the publication of results of a study to determine how the size and configuration of small forest patches affect bird populations.

- the publication of the results of a survey of vine competition in mature woods and areas undergoing early successional stages.

- the continued monitoring of the yearly fluctuation in deer populations in island habitats.

- the continued monitoring of the recovery of plant populations in habitats formerly over-grazed by deer.

- the continued monitoring of the yearly fluctuations of small mammal populations under conditions of limited food and space availability.

- the publication of a study of the ecology of ant communities under various land use conditions.

- the publications of a study of land use practices which have occurred on the Center's properties since first settlement in the mid-1600s.

Upland Ecology Plans Anticipated for FY 1981

- the completion of initial phases of a project designed to measure the effects of climatological variations on forest communities.

- the initiation of a study of the effects of land clearing on the movement of nutrients in soils.

- the development of small-scale experimental plots to be used to investigate competitive interactions among various plant species.

- the initiation of studies of variations in nutrient cycling in forest and old field communities.

- the completion of initial phases of the study of vegetation recovery in the absence of deer grazing.

Watershed Studies - The goal of this research is to determine, quantitatively, the

relationship between land use and runoff in an estuarine watershed system of the eastern coastal plain. The specific objectives of this program are to monitor and analyze the constituents of runoff, rainfall and ground water flow in a watershed and to assess the effects of land use on these parameters.

Watershed Studies Projects Anticipated for FY 1980

- the publication of results of an analysis of the effects of land use on soil microorganisms.
- the publication of a study on the effects of tides on the movement of bacterial pollutants in estuarine headwaters.
- the publication of the results of a study on the movements of herbicides in land runoff.
- the publication of the results of current research on the composition of heavy metals in rainfall and land runoff.
- the continued monitoring of land runoff from the Rhode River watershed to assess the effects of land use on water quality.
- the continuation of the annual survey of farm operators to determine rates of fertilizer and pesticide applications and number of livestock in the Rhode River watershed.

Watershed Studies Plans Anticipated for FY 1981

- the initiation of research on the effectiveness of various vegetation buffer strips in preventing excessive nutrient discharges from agricultural lands.
- the reactivation of watershed weirs and gauging stations which have been closed down due to lack of funds.
- the start of operations on two gauging stations in tidal creeks to assess the quality of land runoff from residential and commercial areas.
- the publication of a summary of watershed research findings over the period 1972-1979.
- the sponsoring of a national workshop on watershed research findings in coastal areas.

Estuarine Ecology - The goal of this program is to determine the effect of land runoff on estuarine water quality, wetlands, productivity, and human uses of estuarine and coastal areas. The specific objectives of this program are to describe the ecological pathways and processes affecting important estuarine communities; to assess the role of various communities within an estuary in supporting fish and shellfish species; and to characterize human uses of estuarine and coastal areas relative to environmental change. One significant finding of the Center's estuarine research program is that heavy concentrations of recreational boats in the creeks and inlets of Chesapeake Bay may produce heavy bacterial contamination of these waters which, in some cases, is at levels high enough to prevent the harvesting of nearby oysters.

Estuarine Ecology Projects Anticipated for FY 1980

- the publication of the results of studies on the distribution of herbicides on estuarine waters.
- the publication of research findings on the toxicity of certain agricultural herbicides to submerged aquatic vegetation in the Chesapeake Bay.

-- the continued surveying of the spawning success and survival of white and yellow perch in estuarine waters.

-- the continued monitoring of the principal water quality parameters of the Rhode River and its tributaries.

-- the continuation of a study of the factors which affect light penetration in the Rhode River and its effects on estuarine plants.

-- the initiation of pilot studies on the distribution of bottom organisms such as clams and oysters in the Rhode River estuary.

-- the initiation of a study of the mechanisms of nutrient processing in tidal wetlands.

-- the initiation of a pilot study on the effects of predation by rays and crabs on bottom dwelling organisms.

Estuarine Ecology Plans Anticipated for FY 1981

-- the continued monitoring of water quality changes and the spawning and survival of various fish species.

-- the expansion of studies of clam and oyster communities to include the entire Rhode River estuary.

-- the initiation of research on the extent to which oyster and clam populations are limited to predation.

-- the initiation of studies to determine the role of bacteria in the cycling of nutrients in tidal wetlands.

-- the gathering of water quality data at tidal monitoring stations which measure runoff from residential areas.

Education and Public Information - Education and public information activities at the Center have as their goal the improvement of the quality and effectiveness of nonformal education, particularly outdoor environmental education, and the achievement of maximum utilization of the Center's research findings by interested agencies and the general public. The program seeks to understand better the effects of the out-of-school learning experiences for both children and adults; develop education materials which illustrate general principles of science and ecology; to develop semi-technical reports which illustrate the significance of the Center's research findings for environmental planning and management issues; and to provide increased opportunities through public programs for learners of all ages to increase their understanding and appreciation of the environment.

Education and Public Information Projects Anticipated for FY 1980

-- the completion and publication of continuing research on the effects of nonformal educational settings on the learning of school-aged children.

-- the completion of the first pilot version of family-oriented, self-administered educational materials on home energy utilization and houseplant ecology.

-- the initiation of research on the role of mental imagery on learning in out-of-school settings.

-- the completion and publication of continuing research on people's preferences for natural landscapes.

-- the continued development of a parent/preschool environmental education program that is oriented toward families, together with educational materials.

-- the development of a self-supporting public environmental education program.

-- the continued updating and expanding of the bibliography of research conducted at the Center, and the publication of summaries of current research for the general public.

Education and Public Information Plans Anticipated for FY 1981

-- the completion and publication of continuing research on the effects of nonformal educational settings on the learning of school-aged children.

-- the completion of the first pilot versions of family-oriented, self-administered educational materials on front yard ecology, time and water.

-- the completion and publication of research on the role of mental imagery on learning in informal settings.

-- the completion of the first pilot unit for the development of nonformal science educational materials for early adolescents.

-- the completion and publication of continuing research on people's preferences for natural landscapes.

-- the pilot development of parent/preschool environmental educational materials projects.

-- the continued development of a self-supporting public environmental education program.

-- the initiation of the research on the psychology of citizen participation in environmental decision making.

-- the continued updating and expansion of a bibliography of research conducted at the Center, and publication of summaries of current research for the general public.

-- the provision of assistance in initiating a Chesapeake Bay-wide process for disseminating environmental information to the general public.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of one position and \$200,000 is requested to permit the operation and maintenance of the Center's watershed monitoring system. Watershed monitoring measures the quantity and quality of land runoff. Land runoff is a term that describes the flow of surface water across the land which originated in rain fall and eventually will be discharged into streams, rivers, estuaries and oceans. The Center's system is made up of 15 small dams and automated water collecting and sampling equipment which are used to analyze land runoff for concentrations of nutrients such as nitrogen and phosphorus and for sediments, bacteria, trace metals, and pesticides. These dams and collectors have been constructed to enable monitoring of pollutants in land runoff which enters the Chesapeake Bay from ten square miles of the Rhode River drainage basin. This model system was built between 1972-1979 with short-term grants and contracts. The Chesapeake Bay Center for Environmental Studies is the only center in the United States where continuous data have been collected on the effects of runoff from agricultural, residential, and forested lands on coastal waters. These data have been used throughout the mid-Atlantic region by state and Federal agencies that do not have a long-term data collection program in order to assess how land use

affects water quality. In addition, this information has been used elsewhere in the United States for testing and varifying models which seek to predict future changes in water quality.

Funding is now being sought for operating the Center's monitoring program on a long-term basis in order to accomplish the following objectives: to determine how yearly changes in weather affect the quality of land runoff; to assess how future changes in patterns of land use along the U.S. coast will affect the quality of estuarine waters; to provide a unique source of information to agencies for distinguishing natural causes from man-induced causes in the fluctuations in the abundance of important fish and shellfish populations; and to maintain a source of information for states and local jurisdictions on how their coastal watershed land use plans can be developed to minimize undesirable effects on fishing and recreation activities. The data collected will provide the only source of such basic information. In addition to the full-time position requested to coordinate the program, funds will be used for the repair and maintenance of the electronic monitoring equipment; the periodic replacement of the dams and monitoring stations which are occasionally damaged during floods; laboratory supplies for analyzing water samples for pesticides, bacteria, trace metals, sediments and nutrients; and contractual services and temporary technical assistance for collecting samples in the field, preparing them for laboratory analysis and preparing data reports for state and federal regulatory agencies.

NONAPPROPRIATED SOURCES OF FUNDING

Unrestricted General and Special Purpose Funds - These funds are provided by allotments and are used to support the summer ecology program, the work/learn program for graduate and undergraduate students studying at the Center, and the salary costs of a docent coodinator and an environmental information specialist whose functions are to disseminate to the public the results of research conducted by the Center's staff. In FY 1979, funds were used to equip the new laboratory wing at the Center. An allotment from the Institution's Collections Acquisitions, Research and Education Program was used to supplement the research conducted on the long-term watershed monitoring program.

Restricted Funds - Funds are provided here in the form of gifts and foundation grants from organizations or corporations for specific purposes. Recently, the Chesapeake Bay Center for Environmental Studies received a grant from the Knapp Foundation for \$100,000 in FY 1980 and in FY 1981 for watershed monitoring. (These amounts are not included in the summary chart in order to be consistent with the Institution's Five-Year Prospectus which was prepared prior to the receipt of this foundation grant.)

Federal Grants and Contracts - These funds are granted from various state and federal agencies for work to be carried out at the Chesapeake Bay Center; this work can be best carried out here because of the expertise of the Center's staff and its site characteristics. Examples of such grants in FY 1980 and FY 1981 are those from the Maryland Department of Agriculture for a study of "The Impact on Open Marsh and Water Management on the Ecology of Chesapeake Bay High Marsh Vegetation" (estimated expenditures of \$54,000 in FY 1980 and \$60,000 in FY 1981) and from the Chesapeake Research Consortium for a project on "Nutrient Dynamics in the Rhode River Ecosystem" (estimated expenditures of \$150,000 in FY 1980 and \$200,000 in FY 1981).

NATIONAL ZOOLOGICAL PARK

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING								FEDERAL GRANTS & CONTRACTS	
			UNRESTRICTED				RESTRICTED					
			General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount		
FY 1979 Actual	324	7,854	--	48	--	92	--	54	--	103		
FY 1980 Estimate	327	8,616	--	39	--	40	--	52	5	115		
FY 1981 Estimate	327	8,807	--	40	--	53	--	36	5	100		

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	327	0	327
Number of Other Positions.....	27	3	30
11 Personnel Compensation.....	6,610	111	6,721
12 Personnel Benefits.....	647	11	658
21 Travel & Trans. of Persons....	26	1	27
22 Transportation of Things.....	9		9
23 Rent, Comm. & Utilities.....	95	7	102
24 Printing and Reproduction....	24	-8	16
25 Other Services.....	139	-14	125
26 Supplies and Materials.....	807	85	892
31 Equipment.....	228	-4	224
Acquisitions for collections.	29	2	31
42 Insur. Claims & Indem.....	2		2
TOTAL	8,616	191	8,807

Analysis of Increase

Necessary Pay.....	96
Inflation.....	95
Program Funds.....	0

ABSTRACT - The National Zoological Park (NZN), established by Congress in 1890, maintains a large and varied animal collection for exhibition and study. The Zoo serves the informational and educational needs of the public and conducts research, conservation and animal health programs on 150 acres in Washington's Rock Creek Valley and on a 3,150 acre Conservation and Research Center at Front Royal, Virginia. No program increase is requested for FY 1981. Necessary pay in the amount of \$96,000 is required for existing staff and an amount of \$95,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The National Zoological Park maintains a live collection in the Rock Creek facilities of approximately 2,000 animals comprising 430 species. Species are selected for their potential for exhibition and education as well as for basic research activities including the conservation of endangered species. Exhibits are grouped taxonomically to show

variety of physiology, behavior and evolution and are designed to place animals in an environment as similar as possible to their natural habitats. There are also over 400 animals, comprising approximately 46 different species, at the Conservation and Research Center at Front Royal, Virginia. Selection of these animals is made after careful consideration by a committee of Zoo scientists and veterinarians. They select animals based on their long-term breeding capability. In addition, some species are chosen because the present captive populations are small or unstable or because of special difficulties in propagation due to habitat setting. These animals, maintained in herds or in the appropriate social groupings for their species, are ideally suited for research to improve husbandry and increase the knowledge of behavior, social organization and aspects of biology.

Animal Management - The long-range objective of the National Zoo is the continuing development of a stable, self-sustaining collection. The Zoo staff of keepers, curators, veterinarians, researchers and support personnel work towards the goal of improving the health and longevity of captive animals. Continued monitoring, observation and research of the animals help to develop insight and information on proper conditions for reproduction and dietary health. Animal management and research results are shared with many other American zoos in a national effort to preserve irreplaceable exotic species, many of which are threatened with extinction in the wild.

Beaver Valley was officially opened in the spring of 1979. The simulated natural settings for exhibiting beaver, grey seals, sea lions, and otters have been extremely well received by the public. The unique underwater viewing areas for the otters and sea lions enable the visitor to witness the aquatic movements and delightful play of these animals. The North American Mammals Exhibit area, consisting of spacious cages in a woodland setting, provides the visitor with access to some of the more spectacular but seldom seen North American mammal species including the jaguar, puma, fisher, and lynx. This exhibit area was completed in FY 1979.

Breeding programs for several threatened species have met with continuing success in the past year. The results of the breeding program with the dorcas gazelles, red pandas, and binturongs have been very positive and the golden lion marmoset breeding program continues to be successful. The NZP continues to send out surplus specimens to other zoos on breeding loans.

Research - The National Zoological Park conducts diverse research activities on the biology of rare and endangered species. These projects are conducted at the National Zoological Park in Rock Creek and at the Front Royal Conservation Center. Projects include aspects of the breeding biology of rare and endangered species and extend to field studies pertinent to the management of the captive collection.

The Zoo's biomedical research staff has been pursuing the possibility of the artificial insemination of rare and endangered species. Semen collection and storage techniques have been perfected for several species including the black rhinoceros and the giant panda. A cooperative effort between the National Zoological Park and the National Zoo in Pretoria, South Africa, has been initiated to enhance the possibilities for breeding the cheetah in captivity.

The National Zoological Park's field research program in Venezuela has continued with work on the ecology of primate populations. Valuable information concerning the carrying capacity of different tropical forests for primate populations in the wild has been gathered, and the results of the initial research efforts have been published in a volume entitled Vertebrate Ecology in the Northern Neotropics. Studies of the social behavior and population densities in the wild are combined with National Zoological Park studies on captive animals, to assist Zoo staff in the design of captive conditions appropriate for enhancing the propagation of exotic species. Insofar as possible, Zoo conditions are made to simulate conditions which animals might find in the wild.

The health and pathology units have increased the number of interns undergoing technical training in NZP facilities. The appointment of a parasitologist for a one-year term has greatly expanded capabilities to identify parasite problems. The computerization of pathology and health records has been initiated which will be a tremendous aid in the storage and retrieval of information relevant to the health care of the collection.

Zoo staff has been maintaining careful records on the percentage of young born animals at the Zoo, aided by advances in the use of data storage and retrieval. Based on these records, in FY 1979, the Zoo research staff published an article pointing out the deleterious effects of inbreeding in the captive propagation of rare stocks. This article published in "Science" received wide attention from other zoo officials. It underscored the need for the maintenance of accurate genealogies in all exchanges of specimens among zoos in order to avoid inbreeding depression where fertility and viability are lost in progeny under a breeding program which permits the close breeding of relatives.

Visitors Education - The "Zoo Express" bus which allows school children from the metropolitan area to visit the classroom facilities at the National Zoological Park completed its second successful year in FY 1979. The initial success of education centers located in the Education/Administration Building and the Bird House has led to exploration into the possibility of establishing a similar education, "Herp Lab" within the Reptile House. A fall series of "Sunday Afternoons at the Zoo" with intensive lectures on various specimens in the collection and opportunities for the public to visit with keepers and staff also has been enormously successful. Similar such educational events for families in the metropolitan area are projected for the future.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from user fees for use of the facilities at Front Royal, including the conference area by authorized visitors and from allotments including those from the Institution's Collections Acquisitions, Research and Education Program. Expenditures under the Research and Education Program totaled \$70,500 in FY 1979 to support studies in animal communications, publications of research data about the Nepal tiger and other endangered species, and other research and education projects. Expenditures under the Collections Acquisitions, Research and Education Program have been recorded for FY 1979, but not yet for FY 1980. This explains the variance in the totals shown between FY 1979, FY 1980 and FY 1981. The Zoo can, however, expect to receive and spend funds made available through this Program in FY 1980 and FY 1981. Funds also are used for the purchase of equipment and supplies needed to operate the classrooms and the auditorium in the Education/Administration Building, and for the costs of the events marking the opening of new exhibits.

Restricted Funds - The Zoo receives a number of gifts, private foundation grants and restricted endowments to support specific zoological research projects. For example, over the past two years a number of private contributors have supported continuing clinical research which is being conducted by the Zoo's Department of Animal Health. It is anticipated that this type of support will continue in FY 1981.

An estimated amount of \$35,000 over the period FY 1980 and FY 1981 will be used for the purchase of animals for the collection and to enable the Zoo to improve the conditions of the existing collection through research.

Federal Grants and Contracts - The funds are provided by various government agencies and departments for research projects being conducted by staff members at the Zoo and other locations. For example, the Zoo currently is conducting research on the social and reproductive behavior of marmosets with a grant from the National Institute of Mental Health (projected expenditures of \$56,000 in FY 1980). A three-year research project of \$170,000 from the National Science Foundation for the continuation of studies of macaques in Sri Lanka is projected to begin in the second quarter of FY 1980 (estimated expenditures of \$57,000 in FY 1980 and \$53,000 in FY 1981).

CENTER FOR THE STUDY OF MAN

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	7	550	--	1	--	--	--	62	--	26
FY 1980 Estimate	8	606	--	2	--	--	--	48	--	11
FY 1981 Estimate	8	632	--	2	--	--	--	38	--	10

*FTP = Full-time permanent positions

Detail of Federal Funding

	<u>Base FY 1980</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1981</u>
Number of Permanent Positions....	8	0	8
Number of Other Positions.....	10	0	10
11 Personnel Compensation.....	254	6	260
12 Personnel Benefits.....	23		23
21 Travel & Trans. of Persons....	53	1	54
22 Transportation of Things.....	16	1	17
23 Rent, Comm. & Utilities.....	5		5
24 Printing and Reproduction....	20	3	23
25 Other Services.....	139	7	146
26 Supplies and Materials.....	67	5	72
31 Equipment.....	29	3	32
TOTAL	606	26	632

Analysis of Increase

Necessary Pay.....	6
Inflation.....	20
Program Funds.....	0

ABSTRACT - The Center for the Study of Man's (CSM) anthropological and human science programs include the National Anthropological Film Center and the Research Institute on Immigration and Ethnic Studies. No program increase is requested for FY 1981. Necessary pay of \$6,000 is required for existing staff and an amount of \$20,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Center for the Study of Man coordinates research and development in a series of anthropological and human science programs. The National Anthropological Film Center (NAFC) was established to take fuller advantage of the scholarly potential of film as a tool of inquiry into the vanishing and changing ways of life and cultures of the world. Its purpose is to facilitate the study, documentation and presentation of visual data records of the varieties of patterns of human behavior, response and expression in natural, social and cultural contexts. A National Research Film Collection is being developed as a means

of preserving these records. This growing collection is now approaching one million feet of film documents representing aspects of life throughout the world. As part of its mandate to continue inquiry into the nature of human condition, the Center has undertaken collaborative programs in: Nepal, India, Tibet, Papua New Guinea, Brazil, Micronesia, Philippines, Pakistan, Cook Islands, and Sudan. Guided by a philosophy which aims at further understanding the human differences across the world, the multicultural approaches of the Film Center have proven attractive in all Third World nations visited.

The principal work of the Film Center is in the areas of visual data retrieval, preparation, analysis and preservation, with effort also devoted to equipment and systems design, indexing and retrieval, and report film production. At present NAFC resources are devoted mainly to developing visual data resources since the increasingly rapid disappearance of traditional lifeways in the world has made attention to gathering visual data particularly urgent.

In order to provide the broadest possible latitude for independent scholarly development of visual data resources on vanishing lifeways, the Film Center has been experimenting with various kinds and levels of support to institutions and scholars in Illinois, Washington, California, New Mexico, Massachusetts, New Hampshire, and Washington, D.C., as well as in several Third World nations. For accurate, up-to-date information on the distribution and conditions of independent ways of life in the world, the Film Center contacts scholars who are personally knowledgeable about particular regions. This gives to the Film Center the detailed knowledge possessed by regional specialists affiliated with various universities and research centers who are actually engaged in work with the different cultures of the world.

The Research Institute on Immigration and Ethnic Studies (RIIES) was founded with the general objectives of stimulating, facilitating, disseminating, and when necessary, advising and conducting the research of immigration to the United States and its territories. The Institute focuses on ethnicity, development, international relations, cultural pluralism, and other areas related to this immigration. There have been two major areas of interest which are being pursued: accumulation of knowledge on immigration to the United States since the passage of the 1965 Immigration Act and the use of the knowledge to develop data and materials for possible future museum exhibits. Multi-disciplinary approaches are being applied to gain a more complete understanding of the new immigrants, their experience, and the consequent challenges and impacts on the future of this society and the international community.

RIIES has carried out a number of crucial projects dealing with new immigration including field studies in Washington, D.C. and other important centers with concentrations of new immigrants: field studies of special cases/types of immigrants, including refugees and migrants; a series of seminars, sometimes in collaboration with other Smithsonian units and organizations, on the new immigrations; and the country's first and only major conference on the new immigration involving national and international scholars, as part of the Institution's Bicentennial observance activities. The proceedings of that conference were published in 1979 in a two-volume work entitled Sourcebook on the New Immigration as well as in a special issue of "Society Magazine" (Sept./Oct. 1977).

FY 1980 and FY 1981 are transitional years in which the Institute will be shifting and sharpening its focus on the impact of the New Immigration as a cultural phenomenon and the expression in museum exhibitions of the implications of the New Immigration.

Such timely issues as second generation immigrants, secondary and return migrations and debates on New Immigration have significant implications for such social science topics as cultural pluralism, alienation and assimilation, social, economic and residential mobility, international cooperation, redistribution of labor and wealth, cultural linkages and technical diffusion, and American thought, structures and circumstances.

Geographically, the Institute's attention will be directed to immigration from the circum-Caribbean region to North America and immigration involving U.S. overseas territories. Several small workshops and cooperative publication or research projects will be pursued along these lines using advisory consultants and temporary staff.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by an annual allotment and are used to provide operating support to the Research Institute on Immigration and Ethnic Studies.

Restricted Funds - These funds are provided through gifts and foundation grants to support research conducted by the Center. For example, the National Anthropological Film Center has received grants for various film study projects such as child behavior and human development in isolated cultures including the Kayapo Indians in Brazil.

Federal Grants and Contracts - A contract awarded to the National Anthropological Film Center by the National Cancer Institute for a film study of the Hunza people in Pakistan is expected to be expended in FY 1980 and in FY 1981. No new grants or contracts are anticipated in these years.

HISTORY AND ART

Summary

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
			FTP*	Amount	FTP*	Amount				
FY 1979 Actual	638	15,705	12	639	17	1,751	37	2,395	1	113
FY 1980 Estimate	638	18,232	14	615	18	1,187	43	2,936	1	83
FY 1981 Estimate	645	19,175	13	625	18	1,269	40	2,774	--	20

*FTP = Full-time permanent positions

Analysis of Increase (Federal Request)

Necessary Pay.....226
 Inflation.....248
 Program Funds.....469

The FY 1980 base for all units in the History and Art Activity totals 638 positions and \$18,232,000. A program increase of seven positions and \$469,000 is requested for FY 1981. Necessary pay of \$226,000 is required for existing staff and an amount of \$248,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

The proposed increases would meet a variety of needs within individual museums, galleries and research units. In the area of research, one new position and \$75,000 are sought for the National Collection of Fine Arts to strengthen its nationally respected nineteenth century American art program; an additional position and \$26,000 are requested for the Joseph Henry Papers project for a research assistant and clerical support; a new position and \$20,000 are sought for the Freer Gallery to hire a librarian with Japanese language capability; and an amount of \$40,000 is sought for the installation of a combined prints and photographs study area that would be easily accessible to the public during the regular museum hours of the National Portrait Gallery. To fill essential collections management needs, an additional position and \$25,000 are sought for a paper conservator urgently needed to work in the paper conservation laboratory created with contributed funds at the Cooper-Hewitt Museum; one position and \$22,000 are sought for an assistant conservator of paper and textiles and for related supplies at the National Museum of History and Technology; funds of \$37,000 are proposed for collections inventory work also at the National Museum of History and Technology; and an amount of \$30,000 is requested for the National Portrait Gallery to hire part-time curatorial assistants for the Department of Photographs and the Department of prints. Funds of \$60,000 are sought to establish a Federal acquisitions base at the Museum of African Art (\$30,000) and to enhance the acquisitions base at the National Portrait Gallery (\$30,000). For exhibitions and education, funds of \$30,000 are requested for the Freer Gallery of Art to enable the Gallery to present more special exhibitions with accompanying written research material; and an amount of \$10,000 is sought to permit the National Portrait Gallery to open two more permanent exhibitions rooms devoted to special collections of portraits. One new position and \$25,000 are sought for the Cooper-Hewitt Museum in order to develop in-house graphic design capability. Funds of \$27,000 are proposed for the National Museum of History and Technology for expanded use in performances as well as conservation of its large and distinguished collection of musical instruments. Finally, in the administration area, one position and \$42,000 are sought to establish the position of Deputy Director of the Museum of African Art.

OFFICE OF THE ASSISTANT SECRETARY FOR HISTORY AND ART

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	9	290	1	61	--	1	--	--	1	17
FY 1980 Estimate	9	316	1	63	--	1	--	1	1	19
FY 1981 Estimate	10	347	1	63	--	1	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	9	1	10
Number of Other Positions.....	0	1	1
11 Personnel Compensation.....	284	27	311
12 Personnel Benefits.....	25	3	28
21 Travel & Trans. of Persons....	5		5
24 Printing and Reproduction.....		1	1
25 Other Services.....		1	1
26 Supplies and Materials.....		1	1
31 Equipment.....	2	-2	
TOTAL	316	31	347

Analysis of Increase

Necessary Pay.....	4
Inflation.....	1
Program Funds.....	26

ABSTRACT - The Office of the Assistant Secretary for History and Art advises and assists the Secretary in planning, implementing and reviewing the activities of the Smithsonian history and art programs. Also included under this heading is the Joseph Henry Papers project. For FY 1981, an increase of one position and \$26,000 is requested to replace research assistance and other support previously received from the National Historical Publications and Records Commission and to provide additional clerical assistance to the Joseph Henry Papers project. Necessary pay in the amount of \$4,000 is required for existing staff and an amount of \$1,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - I. Immediate Office: With a base of four positions and \$154,000, the Office of the Assistant Secretary for History and Art advises and assists the Secretary in planning, implementing, coordinating and reviewing the progress of the Smithsonian history and art bureaus and offices. The bureaus and offices reporting directly to the Assistant Secretary

for History and Art are the Archives of American Art, Cooper-Hewitt Museum in New York, Freer Gallery of Art, Hirshhorn Museum and Sculpture Garden, National Collection of Fine Arts, National Museum of History and Technology, National Portrait Gallery, Office of American and Folklife Studies, Museum of African Art, and the Joseph Henry Papers project.

II. Joseph Henry Papers: The remainder of the resources identified in the base for this office, five positions and \$162,000, support the Joseph Henry Papers project. Since 1968, the editor and staff of the Joseph Henry Papers have been gathering information and preparing for publication the manuscripts of Joseph Henry (1797-1878), the pioneer American physicist and the first Secretary of the Smithsonian Institution. Three volumes of the multi-volume letterpress series have been published by the Smithsonian Institution Press, and the fourth volume will appear in the summer of 1980, as will a special volume of Henry's lectures and essays. In FY 1981, the fifth volume is scheduled for completion and editorial work on the sixth volume of manuscripts will begin. In addition, work continues on the supplementary microfilm edition.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of one position and \$26,000 is requested for the Joseph Henry Papers project. From January 1977 through December 1979, grants from the National Historical Publications and Records Commission supported one full-time research assistant and contributed toward expenses for travel, supplies, computer time, and reproduction of manuscripts. There is only one research assistant on the staff and she serves an important function in that she provides the field research for the senior historians and contributes significantly to the editorial work. Although the Commission has supported the Joseph Henry Papers project since 1975, the grant has not been renewed this year because of decreasing resources. The loss of the position and supporting funds would prolong the editing and publication of the Joseph Henry manuscripts by at least twenty percent. Accordingly, one new research assistant position and \$20,000 are sought to enable the project to proceed on schedule.

An increase of \$6,000 is sought to hire a part-time manuscript typist. In the early years of the project most of the staff time was spent in setting up records, conducting research, collecting documents, and becoming familiar with resources. Over the past few years, the majority of staff time has been devoted to the actual writing of the manuscripts. As a result, volume four in the series will be produced in about half the time required for volume one. To date, the manuscript typing has been done by the office administrator in addition to other administrative duties. As a result of the increasingly heavy typing workload, these responsibilities are now too much for one person and the addition of a manuscript typist on a part-time basis is most urgently needed.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - In FY 1980 and FY 1981, an amount of \$63,000 of unrestricted general funds will be used to pay the salary, benefits, travel and other costs of the Assistant Secretary for History and Art while conducting official Smithsonian business.

Restricted Funds - In FY 1980, an amount of \$1,000 from the National Academy of Sciences will help defray the costs of publishing the Joseph Henry Papers.

Federal Grants and Contracts - Resources here represent a grant from the National Historical Publications and Records Commission to support the Joseph Henry Papers project. This grant, which expired in December 1979, was used to offset the costs of one full-time position.

NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	274	6,421	1	26	2	313	--	251	--	-5
FY 1980 Estimate	278	7,356	2	106	2	184	--	124	--	--
FY 1981 Estimate	279	7,588	1	88	2	156	--	269	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	<u>Base FY 1980</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1981</u>
Number of Permanent Positions....	278	1	279
Number of Other Positions.....	26	3	29
11 Personnel Compensation.....	5,535	115	5,650
12 Personnel Benefits.....	532	12	544
21 Travel & Trans. of Persons....	41		41
22 Transportation of Things.....	30		30
23 Rent, Comm. & Utilities.....	35		35
24 Printing and Reproduction.....	83		83
25 Other Services.....	458	29	487
26 Supplies and Materials.....	240	72	312
31 Equipment.....	322	4	326
Acquisitions for collections.	80		80
TOTAL	<u>7,356</u>	<u>232</u>	<u>7,588</u>

Analysis of Increase

Necessary Pay.....	82
Inflation.....	64
Program Funds.....	86

ABSTRACT - The National Museum of History and Technology (NMHT) collects, preserves and studies the material objects which document American cultural and technological history. For FY 1981, an increase of one position and \$86,000 is requested, consisting of one position and \$22,000 for an assistant conservator of paper and textiles and for related supplies; \$27,000 for two part-time inventory technicians and a part-time clerical support position who will tend the objects stored at the Museum's storage facilities at Silver Hill, Maryland; \$10,000 for related storage supplies and equipment; and \$27,000 for expanded conservation and use of the musical instrument collection. Necessary pay in the amount of \$82,000 is required for existing staff and an amount of \$64,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - As the nation's museum of American cultural and technological history,

the National Museum of History and Technology presents to over four million visitors annually the American past through exhibitions, scholarly publications, presentations, and other services based largely on its collection of over 16 million objects. The Museum accomplishes its goals through five basic programs: the care and organization of existing collections, including their proper recording, conservation and storage; the acquisition of new artifacts; the explication of its holdings through exhibitions, catalogues, and an active program of educational tours and school services; collection-related scholarly publications and presentations which are independent of exhibitions; and a public service program to thousands of institutions and individuals annually requesting assistance.

For the past two years, the Museum's highest priority has been its collections management program which involves the recording and inventorying of the Museum's collections, as well as their conservation and storage, both within the Mall building and at outlying facilities in Suitland, Maryland. The sum of \$101,000 in base funds received from Congress for collections inventory work in FY 1980 is being used to accelerate the Museum's inventory program, to program all records for computer storage, and to begin the challenging task of inventorying the several million items in the National Philatelic Collections. Inventories already have been completed for all the objects (110,000 items) stored at the Mall building for four of the Museum's twenty-one curatorial divisions. Flaking asbestos insulation in the buildings at Suitland has delayed inventory there. Repairs to one of these buildings (to eliminate the potential asbestos hazard and to enable climate/control and security for the collections) is a high priority for FY 1981 and is described in the Restoration and Renovation of Buildings section of this budget.

Availability of this building for collections and staff will alleviate overcrowded storage conditions both on the Mall and at Suitland, and will permit interim storage of collections while the other buildings are being improved over the next few years.

The appropriation request for the Collections Management/Inventory Program, an explanation of this program, and a comprehensive funding summary appear in the Special Programs section on page A-135.

The MHT's major exhibition opening in 1980 is "The Clockwork Universe," a large assemblage of Renaissance clocks and automata being organized in cooperation with the Bavarian National Museum. In addition to the substantial task of maintaining the 375,000 square feet of exhibitions currently on view, the staff will mount several smaller shows, including: "Western Views and Eastern Visions," which will display 180 mid-nineteenth century photographs and other depictions of the American West executed by artists and photographers accompanying surveying expeditions (the U.S. Geological Survey is cosponsoring this project) and "Buckaroo," a selection of objects, including an actual line camp cabin, documenting the daily life of a typical American cowboy living in Northern Nevada. Scholarly illustrated catalogues will accompany both of these exhibitions.

In FY 1981, NMHT will begin a multi-year program to upgrade its exhibitions, many of which date from the building's opening in 1964. The Museum's goal is to enable the clear and effective presentation of as many items from its rich collections as possible. The first new exhibition in this program will focus on the life and achievements of George Washington, to open on the 250th anniversary of his birth in February 1982. The project, described more fully in the Major Exhibition Program section of this budget (page A-139), will take advantage of the unique collections of Washington memorabilia held by this Museum and other nearby institutions.

Among the items acquired with Federal funds during FY 1979 was the earliest dated American quilt, made in 1760. Two nonappropriated Trust funded purchases enrich the Museum's holdings of items used in eighteenth century America--a quartet of remarkably well-preserved Italian stringed instruments, purchased under the Smithsonian's Trust-funded Major Acquisitions Program and an American-made Kentucky rifle. The Museum's nonappropriated unrestricted Trust funds also were used to buy a rare clavichord made in Hamburg (ca. 1756) and a "Historical Clock" dating from 1890 which depicts important scenes in American history to be placed on exhibit soon. The Preston R. Bassett collection of 900 early American lighting

devices was another significant gift. During FY 1980, the James Smithson Society presented the Museum with a Silver Queen Anne teapot made by Samuel Casey of Rhode Island (ca. 1725). A major bequest received was that of the C. Bremmer Jackson collection of eighteenth and early nineteenth century American, English and French fire arms and American military uniforms and insignia; these fill important gaps in the Museum's military history collections.

In addition to the catalogues being completed in connection with the forthcoming exhibitions mentioned above, the Museum staff are involved in numerous publication projects. For example, Volume I of the catalogue of the Museum's Hans Syz collections of eighteenth century European porcelain and earthenware will be issued in January 1980. Over the next few years, emphasis will be placed on preparing other similar publications explicating MHT's holdings and making them more accessible to the public and scholars alike.

EXPLANATION OF PROGRAM INCREASE- In FY 1981, an increase of one position and \$86,000 is requested for conservation and collections management, musical instrument restoration and performance, and archival efforts.

Increased support for NMHT's efforts toward the presentation and restoration of its collections is a natural consequence of its heightened emphasis on collections inventory. There is an urgent need to conserve the large collections which represent rich sources of documentation of American cultural and political life. Significant among such holdings are the Warshaw Collection of Business Americana, a virtually unique collection of advertisements and literature representing American business and industrial history, and a rare and valuable collection of early American paper money. These collections are inherently fragile and losses of any of the items would be irreplaceable. Also in urgent need of attention are the Museum's unparalleled collections of American costumes and textiles. To work with these collections, an additional position for an assistant conservator and \$18,000 are sought for FY 1981. A further \$4,000 is requested for the purchase of essential conservation equipment and supplies. These new resources will permit the Museum to continue to improve its conservation efforts, initiated in FY 1979 when the new Division of Conservation was created. Resources devoted to this Division presently total 11 positions and \$350,000. For FY 1981, an additional amount of \$37,000 is sought to enable the NMHT to extend the inventory project to encompass the large number of items stored at Silver Hill. Of this amount, a sum of \$27,000 is designated for two part-time technicians and one part-time clerical support position. These positions will be used to oversee the protection of specimens leaving and entering Silver Hill buildings and to carry out basic inventory procedures including uncrating, examining, identifying, cataloguing and reporting on condition of specimens. The remaining amount of \$10,000 is requested for storage supplies and equipment, such as shelving, cabinets and acid-free containers.

A total of \$27,000 is sought to enable the NMHT to make fuller use of its large and distinguished collection of musical instruments. Toward this end, three needs must be addressed. First, there is a need to conserve and maintain this collection. For example, the Museum recently has acquired an extremely rare Moravian clavichord which requires considerable restoration before it can be played. Of the amount being sought, a sum of \$5,000 is designated for contractual services for experts to perform the complex restoration on this and other valuable instruments. Secondly, a sum of \$18,000 is proposed to retain professional musicians, skilled in the specialized techniques required by these early instruments, in order to give a series of performances and demonstrations to acquaint the public with the unique characteristics of the rarely-played instruments in the Museum's collections. Finally, an amount of \$4,000 will be applied to begin a program of archival recordings of the performances and demonstrations in order to preserve the unique achievements these concerts represent.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from a variety of sources including the Museum's share of sales in the museum shop, restaurant, bookstore,

product development royalties, and allotments, including those from the Institution's Collections Acquisitions, Research and Education Program. Expenditures under the Collections Acquisitions Program in FY 1979, supported the acquisition of the 18th century Lawrence Witten Quartet of Italian stringed instruments (\$100,000), and under the Education Program, audiovisual equipment for the Museum's education program (\$32,000). Expenditures under the Collection Acquisitions, Research and Education Program have been recorded for FY 1979 but not yet for FY 1980. This explains the variance in the totals shown between FY 1979 and FY 1980 and FY 1981. The Museum of History and Technology can, however, expect to receive and spend funds made available through this Program in FY 1980 and FY 1981. In addition, the funds are used to support field research, publications, less expensive collections acquisitions, and special events for the opening of new exhibits. In FY 1980 and FY 1981, funds also will be used to support the position of the Director of the Museum.

Restricted Funds - Funds provided here are in the form of restricted endowments which specify the use of the donation or bequest and of gifts and foundation grants provided by individuals, organizations and corporations for specific purposes. Generally, the restricted funds provide support for a particular exhibit or project. Funding over the past few years from the maritime community toward the costs of the "Hall of American Maritime Enterprise" culminated with the show's completion in FY 1979. In FY 1980, support for the "Clockwork Universe" exhibition is expected from several sources, including a grant from the National Cash Register Corporation, contributions from the Federal Republic of Germany, and from the Bavarian National Museum. Finally, a grant from Doubleday and Company, Inc. supports the Frank Nelson Doubleday Lectures Series "New Frontiers of Knowledge."

NATIONAL COLLECTION OF FINE ARTS

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	106	3,069	1	49	--	290	--	272	--	--
FY 1980 Estimate	105	3,369	1	46	--	84	--	71	--	--
FY 1981 Estimate	106	3,535	1	47	--	90	--	145	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	105	1	106
Number of Other Positions.....	30	1	31
11 Personnel Compensation.....	2,324	88	2,412
12 Personnel Benefits.....	228	8	236
21 Travel & Trans. of Persons....	28		28
22 Transportation of Things.....	116	8	124
23 Rent, Comm. & Utilities.....	36	3	39
24 Printing and Reproduction....	95	6	101
25 Other Services.....	171	11	182
26 Supplies and Materials.....	124	8	132
31 Equipment.....	47	3	50
Acquisitions for collections	200	15	215
32 Land and Structures.....		16	16
TOTAL	3,369	166	3,535

Analysis of Increase

Necessary Pay.....	37
Inflation.....	54
Program Funds.....	75

ABSTRACT - The National Collection of Fine Arts (NCFA), the oldest national collection of art, is devoted to the acquisition, study, interpretation and exhibition of American painting, sculpture, and decorative art. The Renwick Gallery, a physically separate museum under the purview of NCFA, displays crafts and decorative arts and designs. For FY 1981, an increase of one position and \$75,000 is requested to strengthen NCFA's 19th century American art program. The components of the proposed increase consist of: (1) one position and \$32,000 for a senior curator who would head the program; (2) an amount of \$16,000 for two additional fellows whose expertise is in 19th century American art; and (3) an amount of \$27,000 for visiting scholars and specialists also in 19th century American art. Necessary pay of

\$37,000 is required for existing staff and an amount of \$54,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - NCFA's collection of over 24,000 works represents all aspects of over 200 years of American art and serves as the basis for active programs of exhibition, research and public education. Its publications have become basic texts for reassessment of the art of America's past and its exhibitions have brought new appreciation for American artists of both the past and the present. The Museum has maintained close contact with art centers abroad and has encouraged the study of local art in many regions of the United States. Through the Renwick Gallery, opened in 1972 in a separate building, it has provided galleries for the exhibition of decorative arts and crafts, as well as for the presentation of exhibitions from abroad. Many young professionals from other countries have conducted research and learned methods of museum procedure and public education through NCFA's fellowship and intern programs. NCFA also maintains the Barney Studio House (with a part-time curator paid from nonappropriated Trust funds) as a period home for the Barney Collection. The restored house is now open for tours by reservation, and a new program of public events will begin at the house in the spring of 1980.

As a national center for the study and research of American art, NCFA maintains two major art indexes: the Inventory of American Paintings Executed before 1914, which began as a Bicentennial project and now has over 210,000 items catalogued by computer, and the Smithsonian Art Index, which currently lists over 190,000 items of art which are housed in the Institution's non-art museums. In addition, NCFA has 100,000 slides and photographs on a computerized reference file and another 70,000 negatives and slides which will be entered on the computer data bank. The library, with 38,000 volumes, serves NCFA, the Archives of American Art, the National Portrait Gallery, and local and visiting scholars and students. During FY 1979, the library answered over 2,800 reference questions by mail and telephone.

Educational activities at NCFA include a number of innovative programs. In the past year, almost 450 secondary school students and their teachers participated in the "Discover Graphics" workshops at the Museum, and another 3,000 participated in related workshops held in 27 schools. Approximately 3,500 persons attended the 1979 annual Children's Day, which was titled "The Texture of the West" and through demonstrations, workshops and Indian dances emphasized the nation's heritage of western art. During FY 1979, over 20,000 visitors were conducted through NCFA and the Renwick by 90 docents, and 25 workshops were organized for teachers and others at all educational levels.

NCFA annually guides about ten postgraduate fellows and 15 student interns in training programs, weekly seminars and individual research projects. Another 750 persons are given academic, vocational and scholarly counsel by telephone, correspondence or office conferences. Since 1973 NCFA has cosponsored with the University of Delaware an annual (now semi-annual) symposium on topics of American art, and in 1980 will begin the regular publication of papers from symposia held at the Museum. Also planned for 1980 is a major publication presenting one hundred American works in the NCFA collection; another scholarly book will examine "Sculpture and the Federal Triangle," a subject treated in an exhibition by that name in 1979.

In its exhibition program, NCFA will continue its emphasis on reexamining works by American artists who have been neglected in the past and on exploring regional aspects of American art. The Renwick will provide opportunities for the exhibition of work by American craftsmen, both in displays of works by individuals and in the presentation of new ideas, approaches and techniques of crafts media. When exhibitions are of important national or regional interest, they are offered to other museums for a fee covering only NCFA's expenses in touring them.

In FY 1980, NCFA will devote individual attention to American artists, both living and dead, in special exhibitions to reappraise their influence and critical standing today. Among these are "Hugo Robus (1885-1964)," "Walter Quirt, His Early Years," "The Art of John R. Grabach," and "Drawings by Violet Oakley." In FY 1981, exhibitions will feature

the following American artists, whose works merit fresh attention: David Gilmour Blythe (1816-1865), Jan Matulka (1890-1972), George Biddle (1885-1959) and John Graham (1881-1961).

For some years the NCFA has been building a collection of art from 1930s government-sponsored relief projects, a selection of which was shown in two exhibitions during FY 1980: "Prints for the People: Selections from New Deal Graphics Projects" and "After the Crash." A continuing project is in effect to rehabilitate these works and, when appropriate, to place them on loan in government offices. Another important and related exhibition to be produced in FY 1980 is "GSA Maquettes: Art for Public Places." In FY 1979, the General Services Administration transferred to NCFA 95 works--maquettes, paintings and drawings for sculptures and murals--all commissioned under GSA's Art-in-Architecture program. These preparatory models for monumental sculptures and tapestries by such artists as Alexander Calder, Louise Nevelson and Claes Oldenburg form a valuable, visual document of GSA's pioneering program since its inception. A selection of the works will be presented as an exhibition which will then travel to at least five other locations in the United States during FY 1981.

The Renwick Gallery, as part of its exhibitions program, will continue to show the work of individual craftsmen and to survey broad areas of craft trends. Two exhibitions in the latter category which opened during FY 1980 were "A Century of Ceramics in the United States, 1878-1978," with an emphasis on ceramic developments during the past three decades, and "New Glass," consisting of 272 contemporary glass objects created by 196 craftsmen in 28 countries. The Renwick is undertaking a study of individual innovative craftsmen in various parts of the United States with a view toward exhibition and publication in FY 1981. Also in FY 1981 an in-depth exploration of regional folk art will be exhibited in "Webfoots and Bunchgrassers: Folk Art of the Oregon Country."

The Renwick Also serves as an important national showcase in which to stage exhibitions from foreign countries, chiefly of crafts and decorative arts. In FY 1980, such exhibitions will include: "Ryijy Rugs from Finland: 200 Years of a Textile Art," organized by the Finnish Society of Crafts and Design; "Georg Jensen Silversmithy: 77 Artists, 75 Years," from the collection of the Jensen Company of Copenhagen; "Costumes from the Arab World," organized by the Sewall Art Gallery at Rice University; "French Tradition in Belgium Today: Marionnettes from Liège," from the permanent collection of the Musée de la Vie Wallonne in Belgium; and "Belgian Lace," selected from the Smithsonian collections, coinciding with the "Belgium Today" festival to be held in 1980. In FY 1981, "Berlin Porcelain," consisting of 200 objects created during three centuries by the German State Porcelain Factory in Berlin, will be shown simultaneously with "American Porcelain," encompassing 100 objects selected from 350 submissions by contemporary craftsmen working in 40 states.

Probably the most ambitious cooperative undertaking ever conceived among the various museums and bureaus of the Smithsonian will be "Celebration," a major exhibition and folk-life program intended to show how different cultures celebrate the important events and cycles in the lives of their people. The exhibition portion of the undertaking will be held at the Renwick, where between 500 and 700 objects representing world cultures will be borrowed from all Smithsonian collections and will be shown throughout the entire Renwick Gallery for one year. The exhibition's size and expected popularity--enhanced by an ambitious program of public celebrations, lectures, film showings and demonstrations--is expected to attract record crowds. Since the expense of this exhibition and its concomitant activities is beyond NCFA's normal funding capability, a special budgetary request is being made in FY 1981 under the new Major Exhibition Program heading in the Special Programs section on page A-139.

Major purchases of works of art during FY 1979 were focused on artists such as George Henry Durrie, David Gilmour Blythe, Jan Matulka and John Graham. Major gifts and bequests during the past year have included a partial gift of 54 drawings executed by Elihu Vedder as illustrations for the famous 1886 edition of the Rubaiyat of Omar Khayyam; a bequest by Frank J. McClure of 440 works which concentrates on 20th century American prints; a gift of 34 paintings and sculptures from the Koffler Foundation, consisting of

contemporary works from the Chicago School, which will considerably enhance NCFA's ongoing goal of representing regional art in its collections; and a gift of 98 watercolors by American Indian painters, which will also expand the regional collections. The Koffler Collection is currently on tour to seven museums throughout the country.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of one position and \$75,000 is requested. These funds would permit NCFA to reorganize its Department of 18th and 19th Century Painting and Sculpture in order to devote more curatorial attention to 19th century American art, the mainstay of its extensive collections. The department presently has base resources of three positions and \$149,000. Under the contemplated reorganization, the Department of 18th and 19th Century Painting and Sculpture would be retitled the Department of pre-20th Century Arts. A new position and \$32,000 are sought for a senior curator who would head the Department. The new curator would be responsible for the Museum's programs in 19th century American acquisitions, research, exhibitions and relations with educational institutions and also would supervise the work on NCFA's assortment of European materials which currently fall under no specific department.

To exploit its own collection resources more fully, the NCFA long has maintained an active program through which students and scholars conduct research on various aspects of American art at the Museum. Supervised by a curator of research, approximately ten academic fellows from universities throughout the country carry on their work from time to time in the Museum each year, many discovering for the first time the importance and procedures of dealing with actual works of art and original archival material. Stipends for the fellows have been supplied by the Office of Fellowships and Grants (approximately \$25,000 to \$35,000 annually), by NCFA base funds (approximately \$15,000 annually), and by private contributors. To strengthen the proposed new focus on 19th century American art, funds of \$16,000 are sought for two additional NCFA fellows specializing in this area of study.

A final important ingredient in strengthening NCFA's program in 19th century American art is the presence of visiting scholars and specialists who would spend from three to nine months at the Museum, working not only with collections and archival material, but also with the curators, the fellows and graduate interns. Formal lectures as well as informal seminars and individual guidance by the scholars in residence are contemplated. The scholars would be invited to come consecutively for a period of time which would be determined by their own commitments and by the program proposed by each to NCFA. An amount of \$27,000 is requested to pay the expenses of such visiting scholars and specialists.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from many different sources including restaurant and museum shop sales, and allotments including those from the Institution's Collections Acquisitions, Research and Education Program. Expenditures under the Collections Acquisitions Program totaled \$131,000 in FY 1979 and supported, in part, the acquisition of the painting, Dover Plain, Dutchess County, New York, painted in 1848 by Asher B. Durand. Expenditures under the Collections Acquisitions, Research, and Education Programs have been recorded for FY 1979, but not yet for FY 1980. This explains the variance in the totals shown between FY 1979 and FY 1980 and FY 1981. The National Collection of Fine Arts can, however, expect to receive and spend funds made available through this Program in FY 1980 and FY 1981. Among the other sources are royalties; honoraria received by staff members on official duty (such as lecturing and jurying exhibitions); participation fees from outside museums that receive on-loan exhibitions organized by and initially shown at NCFA; gifts from outside donors to support NCFA exhibits or purchases of works of art for the permanent collections; tuition reimbursements from universities for students who are accepted as interns at NCFA each fall and spring semester; sales of slides and photographs and rental of transparencies to other organizations or individuals; and funding from outside organizations for public programs in the Museum.

These funds also are used to support costs of certain museum publications; purchase works of art; defray travel costs associated with meetings of the National Collection of

Fine Arts Commission; cover the special expenses of curatorial staff members engaged in research related to the permanent collection; provide stipends for summer interns in the professional training program; purchase photographic supplies needed to fill private orders for slides; and to supplement the funds for exhibition opening receptions and similar events.

RESTRICTED FUNDS - Funds provided here are in the form of restricted endowments, which specify the use of the donation or bequest and of gifts and foundation grants by individuals, organizations and corporations for specific purposes. Generally, the restricted funds provide support for a particular exhibition or collection. In FY 1979, funds of \$125,000 were received from a donor to defray part of the cost of the acquisition of the aforementioned painting, Dover Plain, Dutchess County, New York. Among the other funds are the Laura Barney Trust, which is used to maintain Barney Studio House and support its programs (estimated expenditures of \$16,000 in FY 1980 and in FY 1981); the Mobil Oil Fund, which is used for the research, preparation and circulation of the exhibition "Images of an Era: The American Poster, 1945-1975" (estimated expenditures of \$10,000 in FY 1980 and \$9,000 in FY 1981); smaller gifts from the Ford Foundation and the Dayton-Hudson Foundation for the purchase of works from the "Western States Biennial" exhibition; and a gift from the Smithsonian Women's Committee to support public programs in conjunction with "The American Renaissance" exhibition.

NATIONAL PORTRAIT GALLERY

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING								FEDERAL GRANTS & CONTRACTS	
			UNRESTRICTED						RESTRICTED			
			General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount		
FY 1979 Actual	78	2,265	--	122	--	18	3	147	--	5		
FY 1980 Estimate	76	2,462	--	22	--	15	3	109	--	--		
FY 1981 Estimate	76	2,651	--	21	--	14	3	103	--	--		

*FTP = Full-time permanent positions

Detail of Federal Funding

	<u>Base FY 1980</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1981</u>
Number of Permanent Positions....	76	0	76
Number of Other Positions.....	16	2	18
11 Personnel Compensation.....	1,605	57	1,662
12 Personnel Benefits.....	156	6	162
21 Travel & Trans. of Persons....	21		21
22 Transportation of Things.....	65		65
24 Printing and Reproduction....	100		100
25 Other Services.....	116	17	133
26 Supplies and Materials.....	70	29	99
31 Equipment.....	29	50	79
Acquisitions for collections.	300	30	330
TOTAL	2,462	189	2,651

Analysis of Increase

Necessary Pay.....	33
Inflation.....	46
Program Funds.....	110

ABSTRACT - The National Portrait Gallery (NPG) was established by act of Congress in 1962 (20 U.S.C. 75b) as a museum for the exhibition and study of portraits depicting men and women who have made significant contributions to the history, development, and culture of the people of the United States. For FY 1981, an increase of \$110,000 is requested, consisting of: (1) \$30,000 for collections acquisitions; (2) \$10,000 for the opening of two new permanent exhibition galleries, each of which will feature a unique collection of portrait materials recently acquired by the Gallery; (3) \$30,000 for part-time technicians who will assist with the management of the Gallery's rapidly expanding collections of prints and photographs; and (4) \$40,000 for the installation of public study areas for the prints and photographs collections. Necessary pay in the amount of \$33,000 is required for existing staff and an amount of \$46,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The National Portrait Gallery is the only national museum that depicts the history of the United States in terms of the men and women who made that history. The portraits of these individuals are crucial documents of historical evidence and bear strong witness to the roles they played in the American experience.

The Gallery's activities include: the expansion and care of its collections; public education through display of these collections and specially organized temporary exhibitions; the preparation and national distribution of scholarly and popular publications; and the compilation of a definitive catalogue of American portraits, a unique information resource of American history and biography, art and iconography.

During FY 1979, 303 portraits were added to the collections, 52 by gift. Among the most significant donations were an oil of the 18th century American reformer, Benjamin Lay, painted in 1750 by William Williams, the gift of the James Smithson Society; and a daguerreotype of the 19th century architect Robert Mills taken by Whitehurst about 1851, presented by a descendant of the subject. Included among notable purchases were an oil by John Wollaston of Lewis Morris, the New York signer of the Declaration of Independence, and silhouettes of John, Abigail, John Quincy, and Louisa Catherine Adams by Henry Williams.

In FY 1979 the two major National Portrait Gallery exhibitions were "Facing the Light: Historic American Portrait Daguerreotypes," in the fall; and "Return to Albion: Americans in England, 1760-1940," in the spring. In connection with the former, three distinguished American photographers spoke at the Gallery: Marie Cosindas, Arnold Newman, and Alfred Eisenstaedt.

Seven other exhibitions were held at the Gallery during the year: "Blackhawk and Keokuk: Prairie Rebels," "Chester Alan Arthur: From Spoilsman to Statesman," "They Have Made a Nation: The Creators of the Confederacy," and "The Whiskey Rebels: The Pennsylvania Whiskey Rebellion of 1794." A show entitled "Time: Arts and Entertainment," selected from the 856 original works for "Time" magazine covers presented to the National Portrait Gallery by Time Inc., replaced the Gallery's first exhibition from this collection, "The Time of Our Lives," which traveled to the Lyndon Baines Johnson Library in Austin, Texas, in July. A display of significant photographs from the 1840s to the present from the Gallery's permanent collection also was organized. In connection with the Tenth Annual American Print Conference, held at the Gallery in May 1979, an exhibition entitled "Translations: Lithographs from Daguerreotypes" was mounted. A permanent display designed primarily for the visually handicapped was inaugurated in March. It consists of 11 casts of sculptures from the NPG's permanent collection made by the Smithsonian's Office of Exhibits Central. Each cast is accompanied by labels in large-scale type and in braille. A selfguiding audio cassette made with the assistance of the Library of Congress Division of Library Services for the Blind and Physically Handicapped also is available.

In addition to the catalogue for "Facing the Light," produced by the Smithsonian Institution Press, a book accompanying the exhibit "Return to Albion," by Dr. Richard Kenin with an introduction by Alistair Cooke, was published. Two publications were produced (in October 1978) to coincide with the 10th anniversary of the National Portrait Gallery: "Fifty American Faces," a 258-page volume illustrating a cross-section of portraits from the Gallery's collections together with essays on each; and an "Illustrated Checklist" of all portraits in the Gallery's permanent collection acquired through December 31, 1977. Another publication, "A Gallery of Presidents," was issued later in the year. These last three works were produced by the Smithsonian Institution Press.

A symposium on "The Art of Biography," made possible in part by a grant from the Smithsonian's Educational Outreach Program, was held at the Gallery in November. The speakers were Leon Edel, Justin Kaplan, Doris Kearns, and Barbara W. Tuchman. A volume entitled "Telling Lives, The Biographer's Art," consisting of the texts of these talks, together with additional essays by Alfred Kazin, Theodore Rosengarten, and Geoffrey Wolff and an introduction by Marc Pachter, Historian of the National Portrait Gallery, was published in the spring of 1979.

A series of public performances in the Gallery, called "Portraits in Motion," was initiated by NPG's Education Department in FY 1978. These consist of readings from or about individuals whose portraits are in the Gallery's collection. In FY 1979, the series included: "Two Portraits in Repertory: Fanny Kemble and Tallulah Bankhead;" "Meet the Portraits--Pocahontas, Ira Aldridge, Noah Webster, Mary Cassatt, and Clarence Darrow," "Black and Blue: Readings and Songs from the Harlem Renaissance;" and "Jennie," a dramatic program on the life of Jennie Jerome Churchill.

During FY 1979, major progress was made in the nationwide survey of historically significant portraits, a continuing program of the Gallery's "Catalogue of American Portraits." Established in 1966 as a national reference center for historians, curators, publishers, authors, and interested members of the general public, the "Catalogue" contained documentation, including photographs, on approximately 60,000 likenesses. To expand and enrich this unique research facility's information bank, a national survey was begun in FY 1979 with the support of the Andrew W. Mellon Foundation. This survey is projected for completion within seven years. In the first year of the project, three field researchers working in six states accumulated data on approximately 7,200 portraits while surveying 102 public and 248 private collections. The holdings of the "Catalogue of American Portraits" therefore have grown 12 percent over the original bank in just one year. Similar results are anticipated in FY 1980 and FY 1981.

During FY 1980, three major exhibitions, each accompanied by a full-scale publication, will open at the Gallery: "The American Portraits of Robert Edge Pine," "American Portrait Drawings," and "Benjamin West and His American Students." Two major Gallery publications also will appear: updated editions of the NPG's "Illustrated Checklist" and the "Gallery Brochure."

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of \$110,000 is requested. An amount of \$30,000 is sought to increase the acquisitions funds for NPG. Fundamental to the Gallery's mission is the purchase of important, historical portraits for public exhibition and study. Founded less than twenty years ago with a very small collection and no endowment funds for acquisitions, the Gallery has been constantly faced with the problem of acquiring portraits commensurate with its legislated mandate. Given the current prices being brought by American art, and the scarcity of available American portraits of historically important figures, the Gallery requires a steady base of funds sufficient to make necessary purchases while appropriate portraits are available and before prices rise still further. The amount requested will help the Gallery to meet more fully this responsibility for improving the National Collections.

Funds of \$10,000 are sought to enable the Gallery to open two more permanent exhibition rooms devoted to unique collections of portraits. These areas are occupied presently by offices which will be relocated to the garage and other spaces unsuitable for exhibitions. One room will feature the work of James Barton Longacre, a nineteenth century artist whose likenesses formed the basis of the multi-volumed National Portrait Gallery of Distinguished Americans published in 1834-39. The other room will be the permanent display area for selections from the Gallery's collection of original "Time" magazine covers. Together, these exhibitions will complement neighboring rooms presenting late eighteenth and early nineteenth century portrait engravings by C.B.J.F. de Saint-Memin, mid-nineteenth century silhouette portraiture by Auguste Edouart, and twentieth century portrait sculptures by Jo Davidson. The proposed funds would be used to prepare these rooms for exhibition including framing, new cases, appropriate window treatments and floor coverings, painting and lighting.

In 1976, the Congress enacted legislation which permitted NPG to add historical photographs to its collections. Since that time, a curator of photographs has been added to the staff, and an invaluable collection of some 400 photographs, many of them exceedingly rare or unique, has been amassed. In addition, the Department possesses a group of 1,500 glass plate negatives and vintage albums holding 300 carte-de-visite portrait photographs. These materials, which constitute a major and growing resource for study, research and exhibition

are increasingly used by the Museum and by visiting students and scholars. The workload for a single curator, who is responsible for building and caring for this collection, as well as research and writing, planning exhibitions for the Gallery, and responding to public inquiries in his field, has become too great. Therefore, an amount of \$15,000 is requested for a part-time curatorial assistant.

Although the Gallery has collected works on paper since its beginning, the circumstances in the Department of Prints are not dissimilar from those in the Department of Photographs. There is one curator with the same kinds of responsibilities involving a collection of 1,700 prints and a special study collection which includes an iconographic reference file of some 40,000 graphic images in 25,000 labeled folders. This collection, too, is now heavily used, and assistance in handling the workload is needed; an additional \$15,000 is requested for a part-time curatorial assistant.

Finally, as a result of the high public interest in the prints and photographs collections, there is also a need to develop suitable space for their inspection and study. At the present time, prints and photographs not on view in the galleries are housed in the two curators' offices and are available for study and inspection on an appointment basis only. These individual offices serve at once as work centers, clerical support space and storage spaces for the collections. Funds of \$40,000 are sought for the installation of an appropriate, combined prints and photographs study area on the third floor mezzanine which would be easily accessible to the public during regular museum hours. The funds would be used to purchase public reference and work tables, study bays, acoustical partitions, reception area furniture, and needed additional storage systems.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are derived from a variety of sources including the Museum's share of sales in the museum shop and restaurant, publication contracts, sales of photographic reproductions of the collections, individual contributions made for discretionary use, honoraria paid to staff, and allotments. These funds support public lectures, special events held in connection with the opening of new exhibits, travel costs associated with meetings of the National Portrait Gallery Commission, replacement of restaurant equipment, urgent printing tasks, and photographic and other expenses in support of staff lectures. During FY 1979, \$99,000 from the James Smithson Society also was used to acquire the "Portrait of Dr. Morgan," painted by the famous European artist, Angelica Kaufman.

Restricted Funds - Funds are provided for specific purposes in the form of gifts and foundation grants from individuals, organizations or corporations. Generally, the restricted funds provide support for a particular exhibition or project. For example, in FY 1979 the Andrew Mellon Foundation provided a multi-year grant of \$340,000 for the national survey which has helped in the development of "The Catalogue of American Portraits." An amount of \$90,000 was expended during FY 1979 for the surveys in New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and West Virginia. A further \$19,000 was raised in these states in support of the project. During FY 1980, surveys are planned in New York, Massachusetts, Connecticut, and Rhode Island. A total amount of \$50,000 is expected to be raised in all the states being surveyed. Other projects supported with grants include the publications of a volume entitled History of American Conference Papers on American Portrait Prints. Funding is anticipated to remain at the same level for FY 1981.

HIRSHHORN MUSEUM AND SCULPTURE GARDEN

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING								FEDERAL GRANTS & CONTRACTS	
			UNRESTRICTED				RESTRICTED					
			General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount		
FY 1979 Actual	80	2,080	--	62	--	387	--	10	--	--		
FY 1980 Estimate	80	2,279	--	23	--	31	--	507	--	--		
FY 1981 Estimate	80	2,349	--	23	--	30	--	16	--	--		

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	80	0	80
Number of Other Positions.....	3	0	3
11 Personnel Compensation.....	1,514	25	1,539
12 Personnel Benefits.....	143	2	145
21 Travel & Trans. of Persons....	14	1	15
22 Transportation of Things.....	35	2	37
23 Rent, Comm. & Utilities.....	14	1	15
24 Printing and Reproduction....	60	4	64
25 Other Services.....	142	10	152
26 Supplies and Materials.....	78	6	84
31 Equipment.....	55	4	59
Acquisitions for collections.	218	15	233
32 Land and Structures.....	6		6
TOTAL	2,279	70	2,349

Analysis of Increase

Necessary Pay.....	27
Inflation.....	43
Program Funds.....	0

ABSTRACT - Established by Act of Congress (P.L. 89-788, November 7, 1966), the Hirshhorn Museum and Sculpture Garden (HMSG), a major museum of contemporary art, maintains an active program of exhibitions drawing from its own and other collections. The Museum also prepares catalogues and conducts educational activities, including film programs, lectures, concerts, publications, and tours. The Museum also has an active research program which produces publications in the field of modern art. Technical and support units include the offices of conservation, registration, photography, and a reference library. No program increase is requested for FY 1981. Necessary pay in the amount of \$27,000 is required for existing staff and an amount of \$43,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - In October 1979, the Hirshhorn Museum and Sculpture Garden, which opened to the public in 1974, celebrated its fifth birthday. As one of the few major museums of contemporary art in this country, the Museum operates an active exhibition program along with related programs of lectures, films, concerts, and educational activities involving audiences of all ages.

The Museum's schedule calls for four major exhibitions each year. Smaller shows are also scheduled, based as often as possible on the Museum's own collection. In FY 1979, the major exhibitions were "Saul Steinberg"; "Ben Nicholson: Fifty Years of His Art"; "Calder's Universe"; and "Directions". These major exhibitions were supplemented by 17 smaller shows, including "Richard Estes: The Urban Landscape"; "David Hockney: Travels with Pen, Pencil and Ink"; and "Louis M. Eilshemius: Selections from the Hirshhorn Museum and Sculpture Garden"; "Grant Mudford: Photographics"; "David Smith: The Hirshhorn Museum and Sculpture Garden Collection"; "The Cubist Heritage"; and Maillol's "Action in Chains." All major exhibitions were accompanied by well-documented and illustrated catalogues that were available to the general public as well as to students and scholars. Also augmenting the Museum's exhibition program was a series of lectures on various aspects of contemporary art and art history.

The major exhibitions planned for FY 1980 are "Murals Without Walls: Arshile Gorky's Aviation Murals Rediscovered" along with the Museum's works by the same artist; "Fernando Botero"; "Miro: Selected Paintings"; and "The Fifties: Painting in New York, 1950-60." Smaller exhibitions scheduled for FY 1980 are: "Josef Albers: Works from the Collection"; "Oscar Bluemner: The Hirshhorn Museum and Sculpture Garden Collection"; "Raphael Soyer: A Birthday Celebration"; "Hans Richter's: 'Stalingrad (Victory in the East)'" ; "Alexandra Exter: Marionettes"; "Brancusi Photographs"; "Art Deco Posters from the Collection of the Library of Congress"; "New York: The Painter's View"; and "From the Cape: Landscapes of Edwin Dickinson."

Major exhibitions planned for FY 1981 are: "The Russian Avant Garde (1910-1925)"; "Directions, Kenneth Snelson Sculpture"; and "R. B. Kitaj." Smaller special exhibitions, drawn from the permanent collection, will also be presented.

To enhance visitor appreciation of specific exhibitions and of modern art in general, the Hirshhorn provides visitors with a variety of instructional materials, including explanatory wall labels and texts, the latter ranging from a single page to illustrated mini-catalogues, all distributed free to the public. The Museum also conducts film series including lunchtime films about artists, evening films by artist filmmakers, and Saturday films for young people. Events held in the auditorium during FY 1979 were concerts by the 20th Century Consort, two piano concerts by Carla Hubner, and an evening of "Visual Music" with John Dowell. Another popular activity is "Hirshhorn Holiday", a presentation of mime, music, puppetry, etc., designed for children, which has become an annual event during the Christmas season.

In FY 1979, the Hirshhorn continued its comprehensive inventory of the permanent collection. Started in FY 1978 with an inventory of sculpture, and continued in FY 1979 with paintings, the final third of the cycle, to be conducted in the summer of 1980, will examine works on paper.

A museum of contemporary art must continue to acquire art in order to keep its collection contemporary. During FY 1979, the Museum acquired 280 works of art, of which 20 were purchased with Federal funds. Of the latter, important acquisitions included works of art by Helen Frankenthaler, Max Beckmann, Richard Diebenkorn, Anthony Caro, and Al Held. A major purchase with nonappropriated Trust funds was Aristide Maillol's monumental sculpture, "Action in Chains (L'Action Enchaînée): Monument to Louis-Auguste Blanqui." Among gifts were important works of art by Gene Davis, Boris Lovet-Lorski, Robert Natkin, and George Segal.

To make the Museum's collection as accessible as possible to the widest audience, extensive loans are made to museums in the United States and abroad. In FY 1979, the Hirshhorn Museum lent 131 objects to 49 institutions including the Foundation Maeght, France; Kunsthaus, Zurich; National Museum of Modern Art and the Hakone Open-Air Museum in Japan; and in the United States, the Art Institute in Chicago, Studio Museum in Harlem, the Portland Art Museum and the Tampa Bay Art Center.

Members of the staff continued to lecture at the Museum and at other institutions; to write for publication; to work with graduate and undergraduate museum interns and Smithsonian Fellows; to respond to written inquiries and visits from scholars, students, and artists; and to carry forward the tasks of research and documentation.

An active group of docents gave more than 18,000 interested visitors 776 tours of the permanent collection as well as of special exhibitions. An extension program designed to prepare school classes for their museum visits began in September 1978 and has thus far reached approximately 2,000 children. Another extension program, developed in conjunction with the Montgomery County School System, was tried out in Millcreek Town Elementary School in Gaithersburg, Maryland, in January, February, and March 1979. The favorable response indicates that such programs might be extended to other areas and to metropolitan Washington in particular. The Education Department conducted two workshops for the Northern Virginia Council for Gifted/Talented Education, and almost every teacher who attended expressed interest in future participation.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided from the Museum's share of sales in the museum shop, product development activities and sales of exhibit brochures; from other receipts such as fountain coins; and from allotments including those from the Institution's Collections Acquisitions, Research and Education Program. Expenditures under this Program totaled \$377,000 in FY 1979 and supported the purchase of the modern European bronze sculpture "L'Action Enchaînée" by Aristide Maillol (\$368,000) and audiovisual equipment for the Museum's education program (\$9,000). Expenditures under the Collections Acquisitions, Research and Education Program have been recorded for FY 1979, but not yet for FY 1980. This explains the variance in the totals shown between FY 1979 and FY 1980 and FY 1981. The Hirshhorn Museum and Sculpture Garden can, however, expect to receive and spend funds made available through this Program in FY 1980 and FY 1981. In addition, funds are used to help finance the printing costs of new exhibit brochures, to finance travel costs associated with meetings of the Museum's Board of Trustees, to purchase less expensive works of art, and to defray costs of special events held in connection with the opening of new exhibits.

Restricted Funds - Funds provided here are generally gifts and foundation grants which specify the use of the donation. Funds come from individuals, organizations or corporations and are designated for the support of particular exhibitions or projects. In FY 1979, funds from a grant by the Smithsonian Women's Committee were used for "Hirshhorn Holiday", a presentation of mime, music and puppetry designed for a children's audience and for the Steinberg exhibition (funded by a grant from Smith Corona Marchant Corporation). In FY 1980, the Hirshhorn Museum anticipates acquiring works of art important to the collection, using private gifts of up to \$400,000.

FREER GALLERY OF ART

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	30	554	--	17	--	--	17	1,055	--	--
FY 1980 Estimate	29	663	--	9	--	--	20	1,150	--	--
FY 1981 Estimate	30	728	--	13	--	--	17	1,241	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	29	1	30
Number of Other Positions.....	6	1	7
11 Personnel Compensation.....	558	41	599
12 Personnel Benefits.....	51	4	55
24 Printing and Reproduction....	4	5	9
25 Other Services.....	15	5	20
26 Supplies and Materials.....	26	9	35
31 Equipment.....	9	1	10
TOTAL	663	65	728

Analysis of Increase

Necessary Pay.....	9
Inflation.....	6
Program Funds.....	50

ABSTRACT - The Freer Gallery of Art has a continuing program to search for and acquire works of Oriental art of the highest quality and to conserve, study and display those objects as keys to understanding the civilizations that produced them. An increase of one position and \$50,000 is sought in FY 1981. One new position and \$20,000 is needed to hire a librarian with fluency in the Japanese language. Additional funds of \$30,000 are sought to enable the Gallery to present more special exhibitions with accompanying written research material. Necessary pay in the amount of \$9,000 is required for existing staff and an amount of \$6,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Freer Gallery of Art houses one of the world's most distinguished collections of Oriental art. Included in the collection are over 12,000 works of art from China, Japan, Korea, India and the Near East. The collections cover paintings, sculptures and other objects in stone, wood, lacquer, jade, pottery, porcelain, bronze, gold and silver, and Biblical manuscripts. There is also an outstanding collection of American paintings, especially the works of James McNeill Whistler. Items not currently on exhibition, as well as over 25,000 volumes in the Gallery's library, are available to students and scholars.

The Oriental collections of the Freer Gallery, together with the notable American holdings, make the Museum a unique center for students, scholars, and the general public. There has been a growing interest in the collection, as manifested by significant increases in the number of visitors, in requests for Museum tours and in the number of visiting scholars and dignitaries.

In the spring of 1979, "Japan Today"--a celebration honoring the cultural, intellectual and economic life of contemporary Japan--opened in various cities across the United States. As part of its participation in the celebration, and in response to public interest, the Freer Gallery opened a special exhibition of Japanese lacquer in April. Approximately 60 pieces of lacquer from the Freer collection were included, and a fully illustrated catalogue was published. A lecture on Japanese lacquer opened the exhibition.

Two smaller exhibitions were assembled subsequently. On May 18, International Museum Day, the Gallery opened an exhibition of Armenian Manuscripts which form the largest single group among the Early Christian manuscripts in the Freer Gallery. This small but outstanding collection includes six Gospels, a Hymnal and a Psalter and cover a span of seven centuries. The second exhibition focused on "Paintings of the Ch'ing Dynasty (1644-1911)." Examples of work by the innovative academic painters that were so influential during the beginning years of the dynasty were contrasted with scrolls by artists of the so-called "eccentric school" of this period.

The major special exhibition which opened in November 1979 is entitled "A Decade of Discovery: Selected Acquisitions, 1970-1980." The exhibition presents 114 objects of art spanning 21 centuries, from the third millennium B.C. to the 19th century, and represents cultures from the shores of the Mediterranean to the subcontinent of India and the island of Japan. Wherever possible, cultural parallels were established, enabling visitors to compare and contrast artifacts from the Near and Far East. The items range from religious images and ritual objects to secular paintings, personal ornaments and house furnishings.

Small special exhibitions in the winter of 1979-80 include one called the "Art of the Court of Shah Tahmasp." This Shah was an enthusiastic patron of the arts during his life (1524-1576). The flourishing of the arts during the Safavid dynasty came with his support of painting activities of the court and his interest in illustrated manuscripts. This exhibition of objects from the Freer Collection is shown concurrently with a similar, larger exhibition at the National Gallery of Art.

The 1980 season opened with an exhibition of Japanese prints, complementing the popular show of prints in the previous winter, when prints were displayed at the Gallery for the first time. The second exhibition scheduled for FY 1980 features surimono, miniature prints and poems, which were given as gifts, usually in celebration of the New Year. The primary exhibition in the spring of 1980 will be the major collection of Chinese calligraphy recently acquired through the Smithsonian Institution's major acquisitions program funded with the Institution's nonappropriated Trust funds for acquisitions of outstanding quality. Each of the 12 scrolls in the collection is of the finest quality, and several are works by the greatest masters in Chinese calligraphic history. Since the second millenium B.C., calligraphy has been integrated into every aspect of Chinese culture and is viewed as the nation's most important art form.

In the collections management area, a spot check made by an independent reviewer in FY 1979 indicated that the Freer's inventory control was excellent. Work to complete the photographic files of the collections has continued. A greater effort now will be placed on expanding the research files on the individual pieces in the collection. These files are made available to visiting scholars and students.

Finally, as a service to the public, over 2,900 objects and 1,300 photographs were examined for authenticity. As a public service, the Freer attempts to provide a timely response to every request for information from the general public and scholars. To improve the Gallery's capability as an information resource, a program has been initiated to expand the holdings of Japanese reference materials for basic research purposes.

EXPLANATION OF PROGRAM INCREASES - For FY 1981, an increase of \$50,000 is requested. An additional position and \$20,000 are sought to provide a librarian to manage the Freer library's growing collection of Japanese reference materials. The senior librarian sought would have knowledge of the Japanese language to complement the existing Chinese language capability on the library staff. Over half of the Gallery's 25,000 volumes are in Chinese and Japanese and their use by members of the public and the Freer's new Chinese and Japanese curators is expected to continue to increase.

The additional funding request of \$30,000 for exhibitions will be used for two purposes. First, the Gallery has been experimenting with providing free descriptive and explanatory material in its exhibit halls pertaining to the objects on display. Such materials have proven to be particularly useful in assisting the public to understand civilizations vastly different from their own. Funds of \$5,000 requested for annual printing costs of such materials would also permit copies to be sent to school children who frequently mail in requests for free literature. Secondly, an amount of \$25,000 will provide for the preparation of an annual special exhibition of selected materials in the collection (such as the Freer's Indian art objects or its American paintings) which a guest curator would be invited to organize. These funds would provide honorarium costs, modest installation expenses, conservation requirements, and a record catalogue. A regular program of this sort will serve to expose more of the Freer's rich collections to the visiting public without the attendant costs of full-time staff to cover each of these subsidiary areas of the Gallery's holdings.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided from allotments and are used to defray the costs of special events associated with the opening of new exhibits and to cover the travel costs of the members who attend the Gallery's Visiting Committee meetings. In FY 1979, an allotment of \$17,000 provided by the James Smithson Society was used to purchase a rare Turkish brass candlestick of the Ottoman period. In FY 1980, the Gallery also received an allotment from the Collections Acquisitions, Research and Education Program to purchase a major collection of Chinese calligraphy (\$360,500) and to print and distribute gallery leaflets (\$3,500). (Since these funds have not yet been expended, they are not shown on the chart at the beginning of this justification.)

Restricted Funds - The major portion of the nonappropriated Trust funds used by the Gallery stems from the Freer Gift and Bequest and is restricted by the conditions that are stipulated therein. The funds are used to help finance expenses of the professional curatorial staff, the administrative staff, the acquisitions for the collections and library, the maintenance of the Freer's courtyard and the support of the Freer museum shop. Other restricted funds, in the form of gifts and foundation grants, are the Gallery's renewal grants from the Japan Foundation and from the Metropolitan Center for Far Eastern Studies (Tokyo). These are used for continued assistance in acquiring library materials dealing with the history of Japanese art.

ARCHIVES OF AMERICAN ART

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING								FEDERAL GRANTS & CONTRACTS	
			UNRESTRICTED				RESTRICTED					
			General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount		
FY 1979 Actual	17	459	--	--	--	40	10	301	--	--		
FY 1980 Estimate	17	548	--	3	--	--	11	314	--	--		
FY 1981 Estimate	17	564	--	5	--	--	11	316	--	--		

*FTP = Full-time permanent positions

Detail of Federal Funding

	<u>Base FY 1980</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1981</u>
Number of Permanent Positions....	17	0	17
Number of Other Positions.....	2	0	2
11 Personnel Compensation.....	422	9	431
12 Personnel Benefits.....	37	1	38
21 Travel & Trans. of Persons....	11		11
22 Transportation of Things.....	5		5
23 Rent, Comm. & Utilities.....	32	2	34
24 Printing and Reproduction....	21		21
25 Other Services.....	3		3
26 Supplies and Materials.....	10	2	12
31 Equipment.....	7	2	9
TOTAL	<u>548</u>	<u>16</u>	<u>564</u>

Analysis of Increase

Necessary Pay.....	10
Inflation.....	6
Program Funds.....	0

ABSTRACT - The Archives of American Art encourages research and publication in American art history by collecting, preserving and making available to students and scholars the primary documentation on the visual arts. It acquires artists' papers and the records of art galleries, museums and art societies, and makes these resources easily available through microfilm and a national network of regional research centers. Of equal significance is the Archives' Oral History Program which captures important historical data and the personal observations of people who are involved in the American art field. As the nation's largest repository for such materials, it serves research needs of individuals, colleges and universities, museums and other cultural institutions. No program increase is sought in FY 1981. Necessary pay in the amount of \$10,000 is required for existing staff and an amount of \$6,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Archives of American art was established in 1954 and headquartered in the Detroit Institute of Arts. Born out of the need for a central repository of documentation on the visual arts, the Archives began to collect the papers of artists, art critics, and of museums and galleries. These documents consist of letters, diaries, sketchbooks, notes, business records, and ledgers which provide primary data to students and scholars doing research in American art history. The Washington office, acting as the collections management center, accessions, catalogues, processes, microfilms, and preserves the material. Having been microfilmed, it then becomes available for viewing at the five area centers as well as through interlibrary loans.

The Oral History Program provides valuable information contributed by people involved in many areas of the visual arts. It supplements written documents which are often incomplete or difficult to find. The Archives' Oral History Program has now begun to add video-tape interviews to its collections. Used in place of the normal oral interviews, the video-taped interview will be done on a selective basis to preserve a record of key figures from the art world as well as their works, studios and other historically significant information.

During FY 1979, the Archives added 355 new collections to its holdings. Some of the more major acquisitions were the papers of Reginald Marsh, Andrew Ritchie, Hudson Walker, John Storrs, W. G. Constable, and Holger Cahill and the records of The Phillips Collection, the Doll and Richards Gallery, and The League of New Hampshire Craftsmen. Another 144 oral history interviews were conducted, including significant ones with Dorothy Norman, Adelyn Breeskin, Frans Wildenhain, Agnes Mongan, and Richard Hunt. The Archives' first two video-taped interviews were conducted in FY 1979 with artists Isamu Noguchi and Louise Nevelson.

A dramatic rise in use and inquiries was seen in FY 1979. Over 2,400 researchers worked in Archives' regional centers, and more than 3,000 inquiries concerning the Archives' holdings were received and answered, twice the number of the previous year. Approximately 400 interlibrary loan requests were received which resulted in the distribution of 1,179 rolls of microfilm.

During FY 1979 the Archives published its card index of exhibition catalogues as another finding aid to the collection. A supplement to the Checklist of the Collection was made, adding the names of new collections received and interviews conducted. Staff members delivered 15 lectures, primarily discussing the history, holdings, and use of the Archives. The Archives continues to exhibit material in its regional centers and participates with museums in supplementing their exhibitions of paintings and sculpture with documentation on the artists represented. Celebrating its 25th anniversary in 1979, the Archives received a wide range of media coverage, from radio interviews to articles appearing in a number of newspapers and magazines.

In FY 1980, a museum records management conference was organized by the Archives of American Art. Attended by 22 curators and archivists from the U.S. and Canada, the meeting formulated and recommended guidelines on the care of records for museums. Exhibits of Archives' material were held at the Whitney Museum and the Metropolitan Museum in New York. A major exhibition of John Singer Sargent, which took place at the Detroit Institute of Arts, included a large selection of materials from the Archives. Also scheduled in FY 1980 is the publication of the Archives' card catalogue consisting of over 45,000 cards which have been entirely reviewed and updated. By publishing the catalogue and providing supplements, over a thousand libraries and institutions can offer researchers information concerning the wealth of material held by the Archives.

The addition of the new position of director of cooperative programs in FY 1980 will help reinforce the Archives' movement toward using state collecting and local filming projects as an alternative to establishing additional regional centers. Under direction of the director of cooperative programs, projects for the preservation and filming of state art records will

be developed and implemented. With most of the physical and financial support coming from local organizations, the Archives' continuing goal to stimulate and increase research by acquiring, preserving and making available documentation throughout the country, will be accomplished at significantly reduced costs.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided in the form of an annual allotment primarily to defray costs associated with special events held in connection with the opening of new exhibitions. In FY 1979, an amount of \$40,000 was provided to support the publication and production of the comprehensive four-volume annotated description of published sources on American arts, entitled Bibliography of the Arts in America.

Restricted Funds - Funds are derived from gifts, foundation grants, contributions, fundraising activities (such as the Archives' annual auctions and travel tours) and a membership program. These funds are used for the general support of the programs of the Archives, including the support of 11 full-time positions and two part-time positions. In addition, small grants are received from private foundations and state governments to assist in oral history projects and other designated programs. For example, in FY 1979 and FY 1980 an oral history project in California (\$17,500) and a state collecting project in Texas (\$60,000) received support from several foundations, a state agency and various individuals. In FY 1980 and FY 1981 continued support is expected in the areas of developing state collections and oral history projects.

COOPER-HEWITT MUSEUM OF DECORATIVE ARTS AND DESIGN

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	20	467	9	302	10	690	1	346	--	96
FY 1980 Estimate	21	638	10	329	11	623	3	487	--	40
FY 1981 Estimate	23	714	10	351	11	712	3	496	--	20

*FTP = Full-time permanent positions

Detail of Federal Funding

	<u>Base FY 1980</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1981</u>
Number of Permanent Positions....	21	2	23
Number of Other Positions.....	<u>0</u>	<u>0</u>	<u>0</u>
11 Personnel Compensation.....	366	55	421
12 Personnel Benefits.....	36	6	42
21 Travel & Trans. of Persons....	4		4
22 Transportation of Things.....	2		2
23 Rent, Comm. & Utilities.....	11	1	12
24 Printing and Reproduction....	11	1	12
25 Other Services.....	69	5	74
26 Supplies and Materials.....	81	5	86
31 Equipment.....	<u>58</u>	<u>3</u>	<u>61</u>
TOTAL	<u>638</u>	<u>76</u>	<u>714</u>

Analysis of Increase

Necessary Pay.....	11
Inflation.....	15
Program Funds.....	50

ABSTRACT - The Cooper-Hewitt Museum opened to the public in October, 1976 in the Carnegie Mansion in New York City. The Museum is one of the world's great repositories of design and decorative art materials with collections including textiles, drawings, prints, wallpapers, furniture, jewelry, glass, ceramics, silver, and metal work. For FY 1981, an increase of \$50,000 is requested consisting of: (1) one position and \$25,000 for a paper conservator for the Museum to operate a badly needed paper conservation laboratory; and (2) one position and \$25,000 for a graphic designer who would be responsible for the design and production of all printed materials for the Museum, and would assist as well with the production of exhibitions. Necessary pay in the amount \$11,000 is required for existing staff and an amount of \$15,000 is sought to compensate for the effects of inflation in non-salary areas of expense.

PROGRAM - The Cooper-Hewitt Museum, previously known as the Cooper Union Museum for the Arts of Decoration, was founded in 1897. Threatened with closure and discontinuance due to the lack of space and funding at Cooper Union, it was transferred to the Smithsonian Institution in 1968 and the collections moved to the Carnegie Mansion in 1970. It is the only museum in the United States which is devoted exclusively to the study of historical and contemporary design. The collections of the Museum span over 3,000 years and represent cultures and countries around the world. In addition to the collections, the Museum houses a library of approximately 35,000 volumes relating to design, ornament and architecture, a picture library of approximately two million photographs and clippings, and archives devoted to color, material, and industrial design, forming one of the finest decorative arts and design research facilities in the United States.

The Museum completed its third year of operations after reopening to the public on October 7, 1976 in the renovated Andrew Carnegie Mansion. The Cooper-Hewitt has been honored by every major professional society in the design field and its activities continue to receive critical acclaim. In many ways the past year has been the most fruitful and successful in the Museum's history. Attendance continued to increase over the previous year with over 180,000 visitors attending some of the most popular exhibitions to date.

The first major exhibition in fiscal year 1979 was "Ornament in the Twentieth Century" which opened to the public on October 3, 1978. A companion exhibition to "Ornament," "Vienna Moderne, 1898-1918" explored the Vienna Secession, Austria's ArtNouveau movement. This was the first time that a major exhibition of Viennese work from this period had been installed anywhere in the United States and the show proved to be extremely popular. Rita Reif in a December 7, 1978 article in the New York Times wrote of the exhibition". . . the largest and finest exhibition of style ever presented in this country. . ."

On January 23, 1979, "The Dream King, Ludwig II of Bavaria" opened. The exhibition consisted of a selection of drawings and gouache designs for Ludwig II's castles and their contents which had been shown at the Victoria and Albert Museum in London. A selection of furniture, metal work, ceramics and memorabilia as well as a few additional drawings were sent directly from Germany to complement further the material from England.

In the spring, "Japan Today," a festival celebrating Japanese culture was held in a number of American cities. In honor of the occasion, the Cooper-Hewitt devoted the two main floors of galleries to Japanese subjects. The major show "MA, Space/Time in Japan" was designed by Arata Isozaki. Adopted from a similar show in Paris as part of the Festival d'Automne, the show consisted of nine sections, each expressing an aspect of the ancient Japanese concept of MA by means of photographic essays, sculptures, and traditional structures such as the tea house and the Noh stage. The extensive catalogue was written and designed in Tokyo, then edited and printed in New York.

Three exhibitions were shown during the summer. "Fantastic Illustration and Design in Britain, 1850-1930" was organized by the Rhode Island School of Design. The show consisted primarily of original drawings with a small selection of books, furniture, ceramics, and other decorative arts items. "Alvar Aalto" a retrospective show on the work of this major architect was a traveling exhibition circulated by the Finnish Museum of Architecture. The exhibition was largely a photographic panel show with a selection of models, furniture and glassware. "Roma Interrotta" was the third

summer show. It consisted of drawings by twelve architects of idealized schemes for Rome. The 18th century Nolli map of Rome, divided into twelve sections, was the departure point for these drawings.

On June 26, the Museum's third "Immovable Objects" exhibition "Urban Open Space," opened in the Mansion Garden with a Mayoral Proclamation and a festive balloon launching. On this same occasion, Fifth Avenue from 86th to 102nd Street was closed to traffic for two hours in the evening so that visitors could stroll what is known as Museum Mile and visit the nine museums along this strip. Museum Mile has one of the densest concentrations of cultural institutions in the world. The most extensive "Immovable Objects" show to date, "Urban Open Spaces" included a 64-page newspaper catalogue richly illustrated, a postcard tour of outdoor art, a videotape on community gardens produced by the Office of Telecommunications, and eleven exhibitions at sites throughout the city.

In addition to its major exhibitions, the Cooper-Hewitt has held a series of small shows in the Contemporary Design Gallery and in the newly opened Decorative Arts Gallery. They have covered a wide variety of subjects including "Glass: Selections from the Cooper-Hewitt," "Porcelain: A Selection from the Cooper-Hewitt Collection," "Indelible Images, Contemporary Advertising Design," "Form Follows Film" and "Artists Postcards, Series II."

The Smithsonian Traveling Exhibition Service circulated three Cooper-Hewitt shows: "Crosscurrents, Neoclassical Drawings and Prints of France and Italy;" "Close Observation," 112 oil sketches by Frederic E. Church; and "Subways."

The Museum, in cooperation with the Book-of-the-Month Club, has substantially completed a twelve part series, The Smithsonian Illustrated Library of Antiques prepared by the Cooper-Hewitt Museum. Six volumes on subjects including rugs, porcelain, glass, needlework, furniture and prints, are now published; four more manuscripts are being prepared for printing, and authors are finishing manuscripts for the final two volumes. The Museum has also published the following eight catalogues on materials in the collections: Porcelain, Glass, French and Italian Neoclassical Drawings, Bandboxes and Shopping Bags, Japanese Woodblock Prints, Kata-gami: Japanese Stencils, Tsuba: Japanese Sword Guards, and Furniture.

During FY 1979, the Museum offered four semesters of courses covering a wide range of topics relating to design and decorative arts. The Museum continues to increase its audience participation in these programs as well as its course offerings. This summer 25 percent more courses and tours were offered than the previous summer. Total membership in the Museum has now grown to 5,600. Seventy volunteers are currently working at the Museum. In addition to their other duties this past year, they conducted tours for 460 groups, comprising 16,000 adults and young people.

During FY 1979 the Museum accepted 3,058 works of art from 70 donors. The Department of Drawings and Prints, Decorative Arts, and Textiles purchased 13 items for the Museum collections through a variety of restricted acquisition funds. Incoming loans to the Museum continued to increase as 4,598 items were borrowed from 220 museums and private lenders. The Cooper-Hewitt lent 500 objects to 30 museums and other organizations.

Following the appropriation of special inventory funds in FY 1979 and FY 1980 for the planning and implementation of the inventory of the Cooper-Hewitt collections, the staff worked with the Office of Computer Services and with the Smithsonian Registrar to plan inventory systems and procedures. The inventory is currently in progress.

At the end of the FY 1979, 55,000 items of an estimated 300,000 items had been inventoried. An amount of \$50,000 appropriated to the Museum for collections management purposes in FY 1980 along with Collections Management/Inventory funds provided to the Institution should enable the Cooper-Hewitt to accomplish its complete inventory goal by FY 1983.

The appropriation request for the Collections Management/Inventory Program, an explanation of this program and a comprehensive funding summary appear in the Special Programs section on page A-135.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, two new positions and \$50,000 are requested. One position and \$25,000 are sought to enable the Museum to establish an urgently needed paper conservation laboratory. The Cooper-Hewitt Museum has the largest collection of drawings in the United States, the largest collection of wallpaper in the world, a picture collection of two million items, and a very important prints collection. Many of these works on paper require conservation and immediate professional attention. In addition, these works often need to be prepared for exhibition at the Cooper-Hewitt Museum and for loans to other institutions throughout the country. The requested funds would support a paper conservator's salary and would thus enable operation of the laboratory (which has been constructed and supplied through private contributions) to begin.

One position and \$25,000 are requested in order to develop in-house, graphic design capability. This funding would support a graphics designer who would be responsible for the design and production of all printed materials for the Museum, including collection handbooks, exhibition catalogues, program materials, and the newsletter. The designer would also assist with production of labels and graphics materials for exhibitions. It is appropriate that the Cooper-Hewitt, as the nation's only museum devoted exclusively to the study of design, should establish a strong and consistently high level of design in all of its products. This is virtually impossible on an ad hoc, as-can-be-funded basis. A permanent graphics designer would both contribute to the achievement of this goal and be cost effective. This position would also solve a number of museum design problems which have not been dealt with because of lack of funds.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from a variety of sources including museum shop sales, product development, membership and admission fees, and from allotments. The annual allotment supports ten positions including those of the director, assistant director, administrative assistant, and members of the curatorial and registrarial staff. These funds also are used to defray expenses associated with openings of new exhibits. Other funds provided are used to support various educational programs of the Museum.

Restricted Funds - Funds provided here are in the form of restricted endowments which specify the use of the donation or bequest and of gifts and foundation grants provided by individuals, organizations or corporations for specific purposes. Generally, the restricted funds provide a majority of support for the Cooper-Hewitt's exhibitions or programs. Some of the exhibitions planned for FY 1981 are the "Cooper-Hewitt Collection of Silver," "Innovative Furniture," "Horticulture and Decorative Arts," "19th Century German Design," and "Jewelry in the Cooper-Hewitt Collection." Plans for early spring of 1980 include exhibitions on "A Century of Ceramics," "The Fine Art of Living," "Regional Architectural Styles," and "Glass Drinking Vessels."

Federal Grants and Contracts - These funds were provided primarily by agencies and departments for continuation and completion in FY 1980 of handbooks on the Cooper-Hewitt Museum collections and the Departments of Transportation and Housing and Urban

Development for "Movable Object" exhibitions around the city which examine such diverse topics as mythical and utopian cities, skylines and rooftops, building types, historical districts, populations trends and lifestyles, and urban development. No other proposals are pending at this time for either FY 1980 or FY 1981.

MUSEUM OF AFRICAN ART

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual ^{/1}	24	100	--	--	5	12	6	13	--	--
FY 1980 Estimate	23	601	--	14	5	249	6	173	--	24
FY 1981 Estimate	24	699	--	14	5	266	6	188	--	--

*FTP = Full-time permanent positions

/1 Covers the period from August 13, 1979 to September 30, 1979.

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	23	1	24
Number of Other Positions.....	1	0	1
11 Personnel Compensation.....	413	50	463
12 Personnel Benefits.....	37	5	42
21 Travel & Trans. of Persons....	15	1	16
22 Transportation of Things.....	6	4	10
23 Rent, Comm. & Utilities.....	3		3
24 Printing and Reproduction....	37	2	39
25 Other Services.....	35	2	37
26 Supplies and Materials.....	36	3	39
31 Equipment.....	19	1	20
Acquisitions for collections.		30	30
TOTAL	601	98	699

Analysis of Increase

Necessary pay.....	13
Inflation.....	13
Program Funds.....	72

ABSTRACT - Following the signing of P.L. 95-414 by the President authorizing the Museum of African Art to become part of the Smithsonian Institution and the subsequent supplemental appropriation passed in FY 1979, the Museum of African Art, established as a private museum in 1964, officially became part of the Smithsonian in August 1979. Its purpose is to foster public understanding and appreciation for African art, which has only belatedly been recognized as one of the great art traditions in the world. For FY 1981, an increase of one position and \$72,000 is requested, consisting of one position and \$42,000 for a deputy director, vitally needed to meet the Museum's program and administrative demands; and \$30,000 to provide the Museum with modest collection acquisition funds. An amount of \$13,000 is required for necessary pay for existing staff and \$13,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Museum of African Art collects, cares for, studies, and displays traditional African Art, conducts extensive public education programs, and works closely with education officials at all levels in the metropolitan Washington area and throughout the country.

The Museum, located on Capitol Hill, occupies a row of nine townhouses, one of which is the first Washington residence of Frederick Douglass. The complex contains 12 public galleries in which approximately 500 objects are displayed; a storage area for the Museum's permanent collection of approximately 8,000 objects representing all the major regions of Africa; the Eliot Elisofon archives numbering some 100,000 slides, photographs, and film sequences; a reference library of approximately 10,000 titles; an auditorium with seating capacity of 150; a graphics studio; education and administrative offices; and the Museum's sales shop, "Boutique Africa," specializing in contemporary African craft objects.

More than 1.5 million people have visited the Museum's galleries and attended its various extension programs, since it opened in 1964, and some 16,000 groups of people, more than half of which are school children from the District of Columbia, have participated in the Museum's special orientation sessions on African culture and values, conducted by African students on the Museum's staff.

The Museum has mounted 56 exhibitions in its own galleries and some 100 off-site exhibitions; it has also lent more than 2,000 individual works to approximately 140 museums, universities and other organizations in 30 states. Current exhibitions include "Ceremonies and Celebrations"; "The Useful Arts of Kenya"; "The Art of Upper Volta"; "The Sculptor's Eye" (the collection of the eminent American sculpture Chaim Gross); "New Acquisitions" featuring the collection of the late Samuel Rubin bequeathed to the Museum in 1979; "Selected Works from the Permanent Collection"; and "Puppets and Dolls in African Art"; as well as special permanent displays, "Egypt in Africa," "African Drums and Musical Instruments," "Animals in African Art," "Memorabilia of the Life and Times of Frederick Douglass," "African Sources in Modern Art" and an outdoor exhibition "Wall Murals of the N'Debele (a South African people). Exhibitions planned for FY 1981 include "Nigerian Art," which would be produced in cooperation with the Nigerian Embassy, "African Musical Instruments," "The Arts of Cameroon," and "Costumes and Body Decoration as Art".

The Museum's public education program consists of daily museum orientation sessions; regularly occurring African craft workshops for children and adults; arts and craft demonstration by artists-in-residence conducted in cooperation with the Cultural Exchange Program of the International Communications Agency; special series of lectures, symposia, films and performances such as the year-long series on the African Diaspora; African Heritage programs in the public schools, with staff members working directly with teachers and pupils to infuse an understanding of African values and culture into the curriculum; and extension programs and displays for universities, community organizations and conferences. The Museum's Department of Academic Studies (Higher Education) conducts credit courses each semester (25 thus far) in cooperation with area universities, also making its library, photograph archives and collections accessible to scholars and advanced students of African art and culture. Members of that department, as well as curatorial staff members, provide consultation services to other museums and to universities wishing to develop programs in African art studies. Traveling exhibitions prepared by the Museum are also circulated to small colleges or museums either under its own auspices or in cooperation with the Smithsonian Institution Traveling Exhibition Service.

During FY 1981, taking advantage of the professional resources and support services now available to it as a result of its affiliation with the Smithsonian, the Museum will continue the process of developing and refining its exhibition, collection management, education and research capabilities, better enabling it to fulfill its important potential as a national resource for the study and display of African art.

In FY 1979, guard, library, and utilities funds were transferred from the Museum's base to support units of the Smithsonian which provide these services to the Museum. Six positions and \$80,000 were transferred to the Office of Protection Services, one position and \$21,000 was transferred to the Smithsonian Institution Libraries and an amount of \$20,000 was transferred to the Office of Plant Services. This reorganization is in line with standard procedure for the Institution's other museums and related offices, permitting centralized budgeting and control for these common services.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, the Museum requests an increase of one position and \$72,000, the first increase of any kind proposed since the Museum's federal operating budget was first formulated nearly three years ago, prior to legislative hearings on the authorizing bill which permitted the Museum's long-sought affiliation with the Smithsonian.

Experience has indicated that two areas require remedial budgetary assistance to bring the Museum up to a minimal program capability appropriate to its role as the National Museum's principal showcase and exponent of African art. The first such area is in central administration, where one position and \$42,000 is requested to permit the hiring of a deputy director to provide increased day-to-day oversight and guidance for the Museum's important research and exhibition activities, which form the mainstay of its public programs. The Museum's present professional staff complement the Director's Office, which consists only of the director and one senior administrative assistant and is simply too small to cover all areas of program management. This new position would be of tremendous assistance in assuring the orderly and economical development of the Museum's activities.

The second area for which remedial funding is sought is that of collection acquisitions. The Museum of African Art has never had a collection purchase program, and is currently the only Smithsonian art museum with no permanent funding for making judicious collection purchases. Reliance on gifts and bequests of important objects will continue to provide the principal means for new acquisitions, but the \$30,000 in Federal funds sought for this purpose in FY 1981 will give the Museum new flexibility to acquire the occasional object for its collections that would be unavailable otherwise. Such funding is an important feature of any active art museum, and would permit the Museum of African Art to enhance the already high quality of its collections in a very important and necessary way.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from sales in the museum shop, membership contributions, tuition rebates from cooperating colleges and universities whose students participate in the Museum's higher education classes, and allotments. These funds are used for program support of the higher education department and for collections acquisitions. They also support expenses associated with the museum shop, opening of new exhibits and travel costs associated with meetings of the Museum's Board of Trustees.

Restricted Funds - Funds provided here are in the form of foundation grants, which specify the use of the donation, and of gifts provided by individuals, organizations and corporations for specific purposes. Generally, these funds provide support for a particular project or exhibit. The majority of the restricted funds projected for FY 1980 and FY 1981 will be used to provide support for program enrichment including collection acquisitions, special exhibitions and the development of the Museum's higher education teaching capability. An example of such a program is the "African Sources in Modern Art" exhibition and catalogue projected to open early in FY 1981.

Federal Grants and Contracts - Two remaining Federal contracts, which were in effect when the Museum was transferred to the Smithsonian, ended early in FY 1980. No additional such funds are anticipated for FY 1980 or FY 1981.

PUBLIC SERVICE
Summary

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	70	2,112	30	5,276	--	57	--	3	--	72
FY 1980 Estimate	70	2,344	43	4,300	--	--	--	23	--	--
FY 1981 Estimate	73	2,522	44	4,662	--	--	--	21	--	--

*FTP = Full-time permanent positions

Analysis of Increase (Federal Request)

Necessary Pay..... 28
Inflation..... 35
Program Funds..... 115

The FY 1980 base for the Public Service Activity totals 70 positions and \$2,344,000. A program increase of three positions and \$115,000 is requested for FY 1981. Necessary pay of \$28,000 is required for existing staff and an amount of \$35,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

The majority of the proposed program increase, two positions and \$69,000, is designated in support of research and educational activities; of this, one position and \$44,000 are sought for the Division of Performing Arts to expand research programs in Black American culture. The results of this research would be made available to elementary and secondary schools. One position and \$13,000 would enable the Visitors Information and Associates Reception Center to keep pace with the increasing number of requests by the general public for information about Smithsonian programs; and an amount of \$12,000 would be used to purchase audio equipment for the Office of Telecommunications in support of "Radio Smithsonian." The balance of the Public Service request, one position and \$46,000, is sought to create a full-time permanent position for an upward mobility candidate with the Smithsonian Institution Press (one position and \$12,000); to defray the higher costs associated with the printing of the Smithsonian annual report sent to the Regents and the Congress (\$24,000); and to provide sufficient base funding for the offices included within the Office of the Assistant Secretary for Public Service (\$10,000).

The sources and uses of nonappropriated Trust funds are explained individually for each line-item in the Public Service Activity that receives nonappropriated funds.

OFFICE OF THE ASSISTANT SECRETARY FOR PUBLIC SERVICE

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	9	256	15	522	--	27	--	2	--	--
FY 1980 Estimate	9	260	17	645	--	--	--	--	--	--
FY 1981 Estimate	10	300	18	746	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	9	1	10
Number of Other Positions.....	0	0	0
11 Personnel Compensation	233	23	256
12 Personnel Benefits	22	3	25
21 Travel & Trans. of Persons....	2		2
26 Supplies and Materials.....	3	9	12
31 Equipment.....		5	5
TOTAL	260	40	300

Analysis of Increase

Necessary Pay.....	4
Inflation.....	1
Program Funds.....	35

ABSTRACT - The Office of the Assistant Secretary for Public Service guides and supports the public service units in the development of programs to advance the Institution's objectives in education, publication, information and performing arts, and keeps the Secretary informed and advised concerning the public service programs and activities. The Office of Telecommunications and the Visitors Information and Associates Reception Center also are included under this heading. For FY 1981, one position and an increase of \$35,000 is requested, consisting of: (1) \$10,000 to provide sufficient base funding for the functioning of these offices; (2) \$12,000 for replacement of audio equipment for the Office of Telecommunications in support of "Radio Smithsonian;" and (3) one position and \$13,000 for a research assistant for the Public Inquiry Mail Service in the Visitors Information and Associates Reception Center. Necessary pay in the amount of \$4,000 is required for existing staff and an amount of \$1,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - I. Immediate Office: With a base of six positions and \$195,000 the primary functions of the Office of Public Service are to stimulate, coordinate and supervise the steadily increasing activities of the Smithsonian's educational and public service

components. These include the Anacostia Neighborhood Museum, the Division of Performing Arts, the Office of Elementary and Secondary Education, and the Office of Smithsonian Symposia and Seminars. Other activities for which this office is responsible are the dissemination of Smithsonian research and interests through publications programs of the Smithsonian Institution Press, the Smithsonian magazine, the Smithsonian Exposition Books and the International Exchange Service; the development and coordination of a program using the services of volunteers to provide information to the public (in person, by phone and by mail); the administration of a placement service of volunteer assistants throughout the Institution by the Visitors Information and Associates Reception Center; and the development and production of audiovisual materials.

II. Office of Telecommunications: A base of two positions and \$47,000 provide support for the Office of Telecommunications. The primary objectives of this office are to assist in determining Smithsonian policy and objectives for a telecommunications program, which serves as one of the Institution's major means of education and enlightenment and to develop and produce audiovisual materials for distribution to educational institutions, civic organizations, and public and commercial radio and television outlets.

III. Visitors Information and Associates Reception Center: The remaining resources identified for the Office of Public Service, one position and \$18,000, are to provide support for the Public Inquiry Mail Service, one of the main programs of the Visitors Information and Associates Reception Center.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of \$35,000 is requested for the Office of the Assistant Secretary, the Office of Telecommunications and the Visitors Information and Associates Reception Center. An amount of \$10,000 is sought to correct base deficiencies which have developed in these offices which presently have nine Federal employees with salaries and benefits costs of \$265,000. The amount available for these costs is only \$255,000. The deficiency has resulted from the effects of merit promotions and higher benefits costs over the past several years. Since these offices are small, there is virtually no flexibility in their budgets to cover these costs.

Funds of \$12,000 are requested for the Office of Telecommunications to purchase replacement of audio equipment, including microphones, a monophonic tape deck and audio tapes, in support of "Radio Smithsonian." Such equipment is needed in order to maintain high quality in broadcast reproduction. "Radio Smithsonian" is a popular weekly program which publicizes and highlights various activities and presentations of the Institution and stimulates interest in the National Collections. Over 70 radio stations across the nation carry the program, with an audience estimated at between five and six million listeners. The funds will provide for the anticipated replacement of equipment which will permit the maintenance of quality in broadcast reproduction.

The Public Inquiry Mail Service is the only program in the Visitors Information and Associates Reception Center which receives Federal funding. This program currently has a Federal base of one position and \$18,000. The Public Inquiry Mail Service maintains a central public inquiry office for the Smithsonian, including a unit in the Museum of History and Technology, in order to provide complete and timely answers to public mail and telephone requests for information. In FY 1979, the mail service researched and prepared approximately 56,000 replies and inquiries stemming from both telephone and mail requests for information about Smithsonian programs. These information requests are expected to increase significantly. In order to cope with the anticipated increasing workload, which includes opening correspondence, channeling requests for information to appropriate offices, control of work in progress, and research and preparation of pre-printed information fact sheets, one additional research assistant position and \$13,000 are requested.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds -

I. Immediate Office: Funds are provided by allotments for a publications coordinator responsible for the development, implementation and operation of a publishing plan for the

Institution and for insuring that manuscripts developed throughout the Smithsonian are reviewed and evaluated in a consistent manner prior to publication. In FY 1979, an amount of \$14,000 was provided from the Institution's Collections Acquisitions, Research and Education Program in order to conduct a survey on audiovisual products produced and distributed to the public and educational institutions.

II. Office of Telecommunications: These funds are provided by allotments and are used to develop educational and informational materials in television, film and radio designed to carry the results of Smithsonian research and exhibition activities to a variety of audiences. In addition, these funds are used to produce audiovisual educational films such as the film on the Multiple Mirror Telescope entitled, Mirrors on the Universe: The MMT Story, and the film Reunions: Memories of American Experience. These funds also support "Radio Smithsonian," a weekly series about the Smithsonian that is broadcast by nearly seventy subscribing stations across the country. In FY 1979, funds also have been provided from the Institution's Collections Acquisitions, Research and Education Program (\$13,000) to support the Smithsonian series of short radio features produced and developed in connection with Smithsonian's exhibits.

III. Visitors Information and Associates Reception Center: Funds are provided by an annual allotment and are used to provide various information services to the public and associate members of the Institution. These include the Information Volunteer Program, which is responsible for staffing information desks in the Mall museums; the Group Orientation Program, which prepares volunteers to present thirty-minute slide-talk orientations to organized groups visiting the Institution; and the Castle Docent Program, which trains volunteers to conduct regularly scheduled tours of the original Smithsonian Institution Building.

Restricted Funds -

Funds provided here are in the form of gifts and foundation grants from individuals, organizations and corporations for specific purposes. In FY 1979, an award from the Smithsonian Women's Committee was made to the Office of Telecommunications for the Free Film Center, a program which provides weekly film showings on a variety of artistic, historic, scientific and popular subjects for the visiting public at the Smithsonian (expenditures of \$2,000 in FY 1979). This project has been transferred to the Resident Associates Program beginning in FY 1980. No other restricted funds are anticipated for FY 1980 or FY 1981.

ANACOSTIA NEIGHBORHOOD MUSEUM

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	19	556	1	21	--	6	--	1	--	--
FY 1980 Estimate	19	685	1	26	--	--	--	23	--	--
FY 1981 Estimate	19	706	1	28	--	--	--	21	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	19	0	19
Number of Other Positions.....	4	0	4
11 Personnel Compensation.....	462	5	467
12 Personnel Benefits.....	38	1	39
21 Travel & Trans. of Persons....	3		3
22 Transportation of Things.....	1		1
23 Rent, Comm. & Utilities.....	23		23
24 Printing and Reproduction....	25	5	30
25 Other Services.....	57	5	62
26 Supplies and Materials.....	70	5	75
31 Equipment.....	6		6
TOTAL	685	21	706

Analysis of Increase

Necessary Pay.....	6
Inflation.....	15
Program Funds.....	0

ABSTRACT - The Anacostia Neighborhood Museum (ANM), was founded in the Anacostia section of Washington, D.C. in 1967 to provide the opportunity and the resources for a continuing museum experience for community groups and individuals. Carefully researched and produced exhibits, supported by educational and interpretative programs, have responded to the needs and interests of this and adjoining communities. Through its traveling exhibits and publications, the Anacostia Neighborhood Museum also has responded to a national need, and today is recognized as an increasingly important source of black history and culture. No program increase is requested for FY 1981. Necessary pay in the amount of \$6,000 is required for existing staff and an amount of \$15,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Anacostia Neighborhood Museum has brought the culturally enriching museum experience to many who otherwise might never have had the opportunity to participate in such

an experience. In the process, the Museum has gained a national reputation as a center for ethnic studies through its intern program, Museum and traveling exhibitions, research efforts and pioneering education projects.

Currently, the Museum's focus is centered on its exhibits and on accompanying publications that both support and extend the life of exhibits, thereby maximizing the resources expended in the areas of research and exhibit design and production.

Anacostia concentrates on producing major exhibitions, utilizing the resources of Smithsonian museums, other repositories (local, private and national) as well as state and university supported archives and museums. "Out of Africa," installed in FY 1979, is a prime example of the exhibits produced which consist of three-dimensional art objects, artifacts and primary source documents. In FY 1980, "Anna J. Cooper: A Voice from the South" will be installed and "Ancestral Heritage: The Influence of Africa on Afro-American Artists" is being researched for installation in FY 1981.

Anacostia proposes to develop and produce more traveling exhibitions for circulation by the Smithsonian Institution Traveling Exhibition Service which presently circulates Anacostia's "Blacks in the Westward Movement," "The Frederick Douglass Years," and "The Black Women: Achievements Against the Odds." Traveling versions will be of varying sizes and configurations suitable for classroom use and as hanging panel shows appropriate for libraries and smaller museums. In FY 1980, a traveling version of "Out of Africa" will be produced and in FY 1981 traveling exhibits will be produced from "Anna J. Cooper: A Voice from the South," and "Ancestral Heritage: The Influence of Africa on Afro-American Artists." Anacostia's resources and research capability have provided support for interpretative programs at national historical sites around the country and for American and urban studies programs in area colleges and universities, as well as for other museum and educational programs.

The education department is continuing to extend its services to schools and the community through teacher workshops and related activities and to reach special audiences through a wider use of the media. A program involving use of a double labeling system, one for the general viewer and one for the deaf that uses a unique syntax in structuring sentences and phrases is being developed for exhibitions to meet the needs of deaf visitors.

Development of a photographic archive of Black Americana and a reference library will provide support for Anacostia's research, exhibit and educational programs as well as for response to requests from other agencies, educational organizations and private citizens.

The Anacostia Neighborhood Museum has met its initial objective to provide the opportunity and resources for a continuing museum experience for individuals who may not otherwise have had such an opportunity. A committee composed of five members who have museum, research and university backgrounds has been appointed to recommend to the Secretary the future direction of the Anacostia Neighborhood Museum.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are provided by an annual allotment to cover the salary and benefit costs of an exhibits specialist. Additional funds are provided from exhibit rentals and the sale of catalogues. These funds are used to purchase supplies and materials for the various museum programs and for community activities.

Restricted Funds - Funds provided here are in the form of gifts from individuals, organizations and corporations which are designated for general support of the programs of the Museum.

INTERNATIONAL EXCHANGE SERVICE

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	5	232	--	--	--	--	--	--	--	--
FY 1980 Estimate	5	222	--	--	--	--	--	--	--	--
FY 1981 Estimate	5	232	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	5	0	5
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	77	1	78
12 Personnel Benefits.....	8		8
22 Transportation of Things.....	15		15
25 Other Services.....	116	9	125
26 Supplies and Materials.....	3		3
31 Equipment.....	3		3
TOTAL	222	10	232

Analysis of Increase

Necessary Pay.....	1
Inflation.....	9
Program Funds.....	0

ABSTRACT - Through the International Exchange Service (IES), public and private institutions in the United States exchange publications with organizations in other countries. No program increase is requested for FY 1981. Necessary pay in the amount of \$1,000 is required for existing staff and an amount of \$9,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - In 1849, the Smithsonian Institution established a system for the exchange of its literary, scientific and cultural publications with learned societies of other countries. This program was so successful that in 1851 it was expanded to accommodate the exchange of publications of other American organizations. The International Exchange Service responsibilities were formalized when the Brussels Conventions of 1875 - 1886 were adopted by the United States in 1889. The Smithsonian Institution became the official exchange bureau in the United States for the international exchange of literary, scientific and cultural publications. At the same time, International Exchange Service assumed responsibility for the exchange of U.S. government publications as a service for the Library of Congress.

In FY 1977, the Exchange transferred the sending of the weekly issues of the U.S. Patent specifications to the Department of Commerce. Early in FY 1978, the Smithsonian and the Government Printing Office (GPO) concluded an agreement under which Government Printing Office assumed responsibility for the international exchange of other government documents on a reimbursable basis. This reimbursable agreement with Government Printing Office is being renewed in FY 1980. The permanent transfer of this responsibility requires an amendment to an existing statute. The necessary legislation was introduced in the 96th Congress but not acted upon. Legislation is now pending in Congress and, if enacted, this transfer is expected to result in a more efficient operation, as the Government Printing Office is better staffed and equipped to meet the particular needs of the Library of Congress. It is also expected that enactment of the legislation will be followed by a one-time permanent base transfer of funds from the Smithsonian to the Government Printing Office.

Based on the positive results of a survey of nearly 200 academic institutions to determine the need for and utility of exchange services for scientific and literary publications, International Exchange Service will continue to provide these services.

DIVISION OF PERFORMING ARTS

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING								FEDERAL GRANTS & CONTRACTS	
			UNRESTRICTED				RESTRICTED					
			General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount		
FY 1979 Actual	9	294	11	3,043	--	24	--	--	--	72		
FY 1980 Estimate	9	342	19	2,690	--	--	--	--	--	--		
FY 1981 Estimate	10	395	19	3,000	--	--	--	--	--	--		

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	9	1	10
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	242	18	260
12 Personnel Benefits.....	24	2	26
21 Travel & Trans. of Persons....	10		10
24 Printing and Reproduction.....	5	3	8
25 Other Services.....	56	28	84
26 Supplies and Materials.....	4	2	6
31 Equipment.....	1		1
TOTAL	342	53	395

Analysis of Increase

Necessary Pay.....	4
Inflation.....	5
Program Funds.....	44

ABSTRACT - The Division of Performing Arts (DPA) has primary responsibility for the production and presentation of live performance events of the Smithsonian Institution and its museums, with emphasis on programs which relate to and enhance museum collections and deal with national aesthetic expressions. For FY 1981, an increase of one position and \$44,000 is requested to expand research programs in Black American culture. Necessary pay in the amount of \$4,000 is required for existing staff and an amount of \$5,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Division of Performing Arts is the primary planning and supervisory organization for all performances in the Smithsonian Institution. Associated functions include production of a record series and development of catalogues from the Smithsonian performances and collections.

The goals of the Division are to: stimulate public awareness of the Smithsonian museums

as repositories of information and resources for learning; illuminate and enhance the museum collections; explore and explain the American aesthetic experience; and increase public knowledge about the expressive forms of human behavior and the traditions of various cultures. Methods used to accomplish these goals are: presentations of music, dance, dramatic performances and workshop demonstrations; research and publication, including recordings of relevant scholarship generated by the Division of Performing Arts and curatorial staff; and programming and production of celebrations, festivals and children's programs which aid in the interpretation and enjoyment of the museum collections.

In FY 1980, the Division will increase the number of performances in its very popular concert series. This concert series is presented monthly and features leading artists who perform in a wide variety of musical forms: jazz, classical, country, musical theater, popular and gospel. Since many of these concerts are sold out and all are attended at more than 90 percent of capacity, those which have heavy audience demand will be presented on two different occasions during FY 1980 in order to give more people the opportunity to attend.

A significant event scheduled for early 1980 is the colloquium "Voices of the Civil Rights Movement" which is cosponsored by Howard University. This event will commemorate the twentieth anniversary of the first sit-in in the South on February 1, 1960 in Greensboro, North Carolina. The colloquium will include discussions by scholars and participants in the original events, public performances by 30 song leaders from communities which experienced civil rights activities, and a photographic exhibit. A catalogue and recording will result from the colloquium which will document the musical forms from this historic period.

The Division of Performing Arts also conducts educational projects for children and young adults. The Children's Discovery Theater, which opened in FY 1979, will continue to broaden the puppet theater concept by featuring all facets of the arts for children, including film, dance, theater, magic, mime and puppetry.

Also in FY 1980, celebrations in conjunction with the National Museum of History and Technology again will be staged for Christmas and July 4th and for a springtime celebration. These festivals are intended to stimulate interest in the National Collections and to demonstrate, in an entertaining manner, aspects of American life, past and present. They feature various craft demonstrations using the Museum's collections and musical and choral presentations. Five new recordings of jazz and country music will be tested and made available to the public. A fourth recording in the Ellington series will be made.

In order to increase audience size and to enhance the educational experience, the Division plans to establish two or three-day residencies for visiting artists. They will conduct master classes, workshops, open rehearsals and informal discussions sessions to supplement a concert performance. The residencies will include curatorial involvement and collaboration with local institutions. Approximately eight residencies are planned in FY 1980.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of one position and \$44,000 is requested to expand research programs in Black American culture. This effort is intended to use and build upon the results and experiences gained in the Civil Rights Movement conferences to be held during 1980. The objective will be to provide a better understanding of the unique role of spirituals and other forms of artistic expression of Black Americans. In particular, efforts will be made to locate and document recordings, tapes and sources of historical information which are in danger of being lost. Results of this research will be made available for inclusion in elementary and secondary school curricula through "Learning Packages" that periodically accompany mailings that inform schools of Discovery Theater events. In order to accomplish this important, but neglected, aspect of American culture, a research assistant position and \$15,000 are requested. Funds of \$29,000 are sought for printing and duplication of tapes, records and transcripts as well as for

securing the services of participants and scholars on a contractual basis.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are derived primarily from the retail sales of publications and recordings, such as the recordings of the "Smithsonian Collection of Classic Jazz" and the "Smithsonian Treasury of Johann Sebastian Bach"; from ticket sales for performance events; and from commissions on concession sales. These funds are used to support 19 staff members and to cover the costs of producing records and performing arts events and of preparing and distributing educational materials. The increase in permanent staff in FY 1980 is in recognition of the growth of the programs with which the Division of Performing Arts is involved.

Federal Grants and Contracts - Funds are provided by various agencies and departments for special projects within the Division of Performing Arts. For FY 1979, the major source of funding was provided through contracts from the National Endowment for the Arts for the Jazz Oral History Project. These funds are no longer available and no funding is anticipated for FY 1980 and FY 1981.

SMITHSONIAN INSTITUTION PRESS

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING								FEDERAL GRANTS & CONTRACTS
			UNRESTRICTED				RESTRICTED				
	FTP*	Amount	General	Special Purpose	FTP*	Amount	FTP*	Amount	FTP*	Amount	
FY 1979 Actual	28	774	3	1,690	--	--	--	--	--	--	
FY 1980 Estimate	28	835	6	939	--	--	--	--	--	--	
FY 1981 Estimate	29	889	6	888	--	--	--	--	--	--	

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	28	1	29
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	692	23	715
12 Personnel Benefits.....	68	2	70
21 Travel & Trans. of Persons....	1		1
23 Rent, Comm. & Utilities.....	3		3
24 Printing and Reproduction....	54	29	83
25 Other Services.....	12		12
26 Supplies and Materials.....	3		3
31 Equipment.....	2		2
TOTAL	855	54	889

Analysis of Increase

Necessary Pay.....	13
Inflation.....	5
Program Funds.....	36

ABSTRACT - The Smithsonian Institution Press is responsible for the editing, design, production and distribution of printed materials prepared by historians, scientists and curators. Such materials include research monographs, technical and scientific series, exhibit catalogues for Smithsonian museums, educational pamphlets, and informational leaflets. The Press also acts as Smithsonian agent with the U.S. Government Printing Office in contracting for printing services and procuring of needed federal printed materials and publications. For FY 1981, a program increase of one position and \$56,000 is requested, consisting of: (1) one position and \$12,000 for an upward mobility position and (2) \$24,000 to offset cost increases associated with printing the Smithsonian annual report to the Regents and to Congress. Necessary pay in the amount of \$13,000 is required for existing staff and an amount of \$5,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The publication activity of the Press is a fundamental extension of the Smithsonian's basic research laboratories. The scientific, technological and historical series monographs published by the Press make the results of research conducted by Smithsonian curators and staff experts available to major libraries, museums, scientific institutions and interested members of the public throughout the United States and abroad. In addition to publishing research findings, the Press edits and designs exhibit catalogues, educational pamphlets, and informational leaflets which serve the millions of visitors to the Smithsonian and the extension programs conducted all over the nation.

After review of manuscripts for adequacy of preparation, the Press staff designs the publication's format, conducts all phases of the editing and guides the manuscript through the composition, printing and binding stages--through the Government Printing Office in the case of Federally-funded publications, and with commercial establishments for those financed by other sources. The distribution section of the Press is responsible for receiving, warehousing and shipping the finished publications according to selected mailing lists.

The Press also edits, designs and produces Smithsonian Year, the Institution's annual report to the Regents and to Congress, as well as procures and distributes within the Institution a variety of necessary manuals, reports and directories, including copies of Congressional materials and reports from Government agencies.

Publishing plans for FY 1981 will be determined primarily by the Press' client bureaus and offices and depend on the allocations of funds made available to these bureaus for publishing purposes. The Press anticipates that requests for publications will increase partly as a result of the addition of new and active museums in the past few years. The total number of research manuscript pages submitted to the Press by Smithsonian staff has increased dramatically from 6,621 pages in 1977 to 11,348 in 1978, to 15,050 in 1979. This trend is expected to continue for several years. The Press was responsible for 85 publications in FY 1979, of which 58 were general publications and 27 were scientific technical monographs.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of one position and \$36,000 is requested. One position and an amount of \$12,000 are sought to fund an upward mobility position which had been provided by the Office of Equal Opportunity (OEO) for a two-year period. (The Office of Equal Opportunity has two such positions which are assigned to individual units for a fixed time period and then these revert to that Office for assignment elsewhere in the Institution.) By FY 1981, the incumbent will have reached the working technical level in publications distribution where there is a need for additional staff.

An amount of \$24,000 is requested to cover the increased publications cost of Smithsonian Year, the annual report of the Secretary to the Smithsonian Board of Regents and to the Congress. The report contains a representative chronology of Smithsonian activities throughout the year as well as an in-depth discussion of the progress made in the many and varied Smithsonian bureaus and programs. It also contains information on the Woodrow Wilson International Center for Scholars, the John F. Kennedy Center for the Performing Arts, the National Gallery of Art, and any other organization which is, at a given time, under the Smithsonian's aegis. Circulation of the report has increased over the past few years while the Government Printing Office's (GPO) charge for printing this document has risen substantially. The combination of increased circulation and higher publication costs is expected to result in a Government Printing Office charge of \$60,000 to \$65,000 for printing the Smithsonian Year in FY 1981; this compares with a cost of \$38,000 in FY 1979.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are derived from royalties, special publishing services and sales of Trust-funded books. These funds support six

staff members as well as production costs for scholarly publications which the Institution considers necessary to publish in support of its research, collections, exhibitions and other programs. Such a publication is the four-volume work prepared by the Archives of American Art entitled Bibliography of Arts in America. Two volumes have already been published and the other two will become available early in calendar year 1980. This bibliography is one of the most comprehensive sources of information on the arts ever published.

In addition, the Smithsonian Institution Press assists the bureaus, offices, and individual staff members of the Smithsonian in arranging to place manuscripts with appropriate outside publishers. A notable example of this service in FY 1979 was the role performed by the Press staff as Smithsonian liaison in negotiations and agreement with the Harry N. Abrams publishing firm to produce the best selling book The National Air and Space Museum. The Press marketed this book to the Smithsonian National Associates in FY 1979, thus, the expenditure level in FY 1979 is significantly higher than those shown in FY 1980 and FY 1981.

MUSEUM PROGRAMS

Summary

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	287	7,654	25	1,024	--	129	--	31	--	32
FY 1980 Estimate	286	8,640	27	1,037	--	47	--	21	--	--
FY 1981 Estimate	295	9,178	29	1,192	--	44	--	2	--	--

*FTP = Full-time permanent positions

Analysis of Increase (Federal Request)

Necessary Pay.....	99
Inflation.....	106
Program Funds.....	333

The FY 1980 base for all units in the Museum Programs Activity totals 286 positions and \$8,640,000. A program increase of nine positions and \$333,000 is requested for FY 1981. Necessary pay of \$99,000 is required for existing staff and an amount of \$106,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

Of the total proposed program increase, seven positions and \$89,000 are designated for the Conservation Analytical Laboratory to initiate staff expansion related to its planned programs associated with the Museum Support Center, primarily in conservation training; one position and \$119,000 are sought for the Smithsonian Institution Libraries to enable the Cooper-Hewitt Library to provide more effective service to its users, to expand use of automated systems to inventory Smithsonian holdings of titles for which no records exist, to provide clerical assistance to the Keeper of Rare Books and to augment the book and journal budget of the Museum of African Art; and one position and \$124,000 are requested for four offices within the purview of the Office of the Assistant Secretary for Museum Programs. These include: the Immediate Office of the Assistant Secretary in order to continue studies on subjects of interest to the museum profession; the Office of Museum Programs to provide additional workshops and other assistance for the Native American Training Program; the Office of Horticulture to care for additional landscaped areas on Smithsonian grounds and meet floral and landscaping demand in conjunction with exhibitions; and the South Group Buildings Management to provide several buildings management functions. Finally, an amount of \$1,000 would enable the Smithsonian Institution Archives to offer fellowships on a regular basis to a handicapped individual.

The sources and uses of nonappropriated Trust funds are explained individually for each line-item in the Museum Programs Activity.

OFFICE OF THE ASSISTANT SECRETARY FOR MUSEUM PROGRAMS

AND

OFFICE OF MUSEUM PROGRAMS

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	96	2,095	--	22	--	85	--	20	--	--
FY 1980 Estimate	92	2,360	--	6	--	41	--	21	--	--
FY 1981 Estimate	93	2,535	--	6	--	39	--	2	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	92	1	93
Number of Other Positions.....	31	8	39
11 Personnel Compensation.....	1,816	100	1,916
12 Personnel Benefits.....	182	12	194
21 Travel & Trans. of Persons....	18	1	19
23 Rent, Comm. & Utilities.....	35	5	40
24 Printing and Reproduction....	8	2	10
25 Other Services.....	120	18	138
26 Supplies and Materials.....	147	15	162
31 Equipment.....	34	22	56
TOTAL	2,360	175	2,535

Analysis of Increase

Necessary Pay.....	29
Inflation.....	22
Program Funds.....	124

ABSTRACT - The Office of the Assistant Secretary for Museum Programs coordinates and provides direction to the Institution's central museum management and program support activities, maintains liaison with national and international museum organizations, undertakes special studies for improvement of museum operations and methodologies, and assists and advises the Secretary on these and related matters. The Office also furnishes advice and technical assistance to other museums, undertakes studies on the effectiveness of museum exhibits, programs and management methods, conducts training seminars and workshops on museum management for museum personnel and disseminates technical information on museum practices. Included under this heading are the Office of Museum Programs, the Office of Horticulture, the South Group Buildings Management and the Office of International Activities.

For FY 1981, an increase of one position and \$124,000 is requested, consisting of: (1) \$4,000 to enable the Immediate Office of the Assistant Secretary to conduct preliminary studies of critical problems in museum management and operations; (2) \$31,000 to be used to support technical training and consultation activities of the Native American Training Program; (3) \$33,000 to permit the Office of Horticulture to meet its responsibilities for the care of additional landscaped areas on Smithsonian grounds; and (4) one position and \$56,000 to enable the South Group Buildings Management office to provide urgently needed services for the Smithsonian Institution and the Arts and Industries Buildings, including, the need for improved shipping and receiving capabilities. An amount of \$29,000 is required for necessary pay for existing staff and an amount of \$22,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - I. Immediate Office, Assistant Secretary for Museum Programs: This Office administers, oversees, reviews and supports the Office of the Registrar, Conservation Analytical Laboratory, Office of Exhibits Central, Smithsonian Institution Libraries, Smithsonian Archives, National Museum Act, Office of Museum Programs, Smithsonian Institution Traveling Exhibition Service, Office of Horticulture, Office of International Activities and South Group Buildings Management.

In cooperation with other units of the Institution, the Office coordinates projects related to the development and improvement of facilities and operational methods of the Smithsonian museums and works closely with museum professionals nationally and abroad. In this capacity it works to enhance the scholarly, exhibition and educational functions of museums; encourages the development of new techniques in museum administration and practice; establishes improved training programs for museum professionals; and studies the application of contemporary technologies to museum needs in such areas as conservation, collections storage and energy use.

In FY 1979, the Office continued its direction of the detailed architectural and program planning effort for the Museum Support Center in cooperation with the General Services Administration. Working drawings and specifications are now being prepared and it is anticipated that bids for construction will be sought in mid-1980 and that construction will be completed near the end of 1982. The Special Assistant, assigned to the Assistant Secretary, compiled data on future operational and equipment requirements for the Support Center. (These requirements are detailed in the Special Programs section under Museum Support Center Equipment in this budget request.) Also, in FY 1979, the Office administered the funds appropriated by the Congress to accelerate the Institution's collection inventory work. Funds appropriated for FY 1980 for this purpose are also being administered by this Office. (This program also is described in the Special Programs section under the Collections Management/Inventory Program on pages A - 135 to A - 138 .) Review of the work of task forces assigned to implement recommendations contained in the "Collections Management and Policy Study" continued, with special emphasis given to the development of essential elements to be contained in individual museum collection management policy statements. The Office also participated actively in a number of national and international museological activities throughout the year.

II. Office of Museum Programs: This Office conducts training programs for museum personnel, including special programs for training Native Americans; produces informational audiovisual presentations on museum conservation practices for distribution to museums and educational organizations; undertakes evaluation studies to develop data for the improvement of the quality and effectiveness of museum exhibitions and educational activities; and provides program supervision for the Museum Reference Center which is the major library source of museological information in the United States.

The Museum Training Program offers courses in the form of seminars and workshops taught primarily by Smithsonian staff for individuals employed by museums throughout the United States and abroad. Each course is devoted to a specific topic. These courses cover such subjects as design and production of exhibits, museum lighting techniques, development of educational activities, cooperative programs with schools, museum budgeting, accounting and management methods, preparation of museum publications, and registration methods.

In FY 1979, 587 museum professionals attended the 30 training workshops offered. All were filled to capacity and most were oversubscribed. For FY 1980, 30 workshops will be held for an anticipated 600 participants, and a comparable number will be scheduled for FY 1981. The size of the training program is limited only by space available for the workshops and the staff time required for planning and conducting them. As a means of expanding the program for additional interested museum professionals, the Office has, at no cost to the Smithsonian, conducted several on-site workshops held in other cities in cooperation with local museums and museum-related organizations. The six cooperative programs held in 1978 and 1979 established the feasibility and effectiveness of this approach and an estimated nine additional on-site workshops are planned for 1980.

The Office also conducted a series of special short courses for Smithsonian staff, with emphasis on collections management and registration procedures and it screened and placed 45 interns and professional visitors from the United States and abroad in the various Smithsonian museums and departments.

Since its inception in 1978, the Native American Training Program has provided technical assistance to Native American museums; conducted workshops at the Smithsonian and in the field; served as liaison between Native American groups, various federal agencies and private museums on matters pertaining to the Native American Religious Freedom Act; planned internships for personnel of Native American museums and located funding for them; and helped tribal museums secure loans of artifacts for their museums. The establishment of the American Indian Museum Association in May 1979 was a direct outgrowth of a special workshop held by this Office in late 1978 for Native American museum directors. More than 100 Native American groups are now affiliated with this Association. Support received from the Division of Indian and Native American Programs of the Department of Labor has permitted expansion of the schedule of on-site visits to tribal reservations for consulting and advisory purposes.

The Conservation Information Program, another program conducted by the Office of Museum Programs, produces audiovisual presentations illustrating and explaining museum practices and techniques with an emphasis on museum conservation. These are offered on loan to museums, museum-related organizations and schools throughout the country. In FY 1979 and FY 1980, four new videotapes and three new slide-cassette programs were produced, creating a total audiovisual library of thirteen slide-cassette and eighty-eight videotape titles. Since 1974, more than 2,600 requests for these audiovisual presentations have been filled, 530 of them in FY 1979 alone. In addition, 925 orders of supporting printed materials were filled in FY 1978 and FY 1979. Twenty-four major museums or conservation training centers in the United States and abroad have purchased copies of many of the videotapes and slide sets for use in their own training programs. The careful research and script preparation which is basic to this production effort will continue in the future. A limited amount of the resources available for the conservation information program will be applied in 1980 for routine updating and maintenance of equipment needed to produce programs that are of acceptable quality for distribution.

The Psychological Studies Program evaluates the effectiveness of museum exhibits and presentations and measures visitors' reactions to them. To assure that the data accumulated is significant and relevant, the program has developed measurement and evaluation techniques designed specifically for use in the museum environment. In FY 1979, evaluation studies were completed for specific exhibits or programs at the National Museum of Natural History, the National Zoological Park, the National Museum of History and Technology, and the Hirshhorn Museum and Sculpture Garden. In addition, the Office provided evaluation services and consulted with the Office of Elementary and Secondary Education and the Office of Equal Opportunity. Of particular importance during the last year was a study undertaken during the design phase of a major exhibit at the National Museum of Natural History. The results of this study permitted useful modifications before the exhibit was committed to construction. Another project involved the development of a questionnaire to assure a more effective evaluation by users of shows circulated by the Smithsonian Institution Traveling Exhibition Service. Special training sessions were held to inform Smithsonian staff of the methods and uses of evaluation studies to enable museum bureaus to undertake their own evaluation programs. This training will continue into FY 1980 and will give the museums a better understanding of visitor behavior and of the kinds of impressions that the museum experience makes. The Office of Museum Programs will share tested evaluation methods and procedures with museums throughout the country as a form of technical assistance for the improvement of their own programs.

III. Office of International Activities: The Office of International Activities fosters and coordinates international aspects of Smithsonian museum, research and cultural programs. The Office serves the Institution's interest abroad through the continuing liaison with private institutions, with governments, both in the United States and abroad and with international organizations.

Smithsonian programs are served by this office in its: (1) advising on foreign affairs affecting them, (2) investigating opportunities for international cooperation important to professional staff members, and (3) contributing to the search for funds to support international cooperative programs. The Office also provides logistical support for Smithsonian scholars and their foreign collaborators by obtaining research permits and import and export permits and by arranging for passports and visas.

The Office also fosters exchanges among other United States and foreign institutions working in fields of Smithsonian interest and among museum professionals around the world.

During 1979, efforts were intensified to develop cooperation with the People's Republic of China (PRC) and to support initiatives of science bureaus in developing research opportunities in Cuba. As a consequence of the former effort, the Institution was invited by the Scientific and Technical Association of the PRC to send a delegation to China in November 1979. The delegation developed proposals for joint projects and for exchanges in biology, archeology and museology which seem likely to be realized over the next year. A Chinese delegation is expected to visit the Smithsonian in 1980. A delegation from the Cuban Academy of Sciences was received at the Smithsonian in 1979. The visit resulted in plans by the National Zoological Park and the National Museum of Natural History for scholars to travel to Cuba in late 1979 and early in 1980 to conduct field research.

The Office obtained the support of the International Communication Agency's (ICA) International Visitors Program for the participation of some 20 foreign museum educators from 18 countries in a symposium, "Children in Museums," planned by the

Smithsonian's Office of Museum Programs. The symposium was one of the Institution's contributions to the International Year of the Child. In addition, the ICA participants traveled to 12 cities in a program entitled "Education in Museums and Science Centers," which was also planned by the Smithsonian's Office of Museum Programs.

Also in 1979, the Office of International Activities arranged for short-term visits to the Institution by 25 delegations and 70 individual foreign visitors. In addition, the Office documented 31 exchange visitors and foreign students who conducted research and related activities under Smithsonian programs within the framework of the Office's responsibility for administering Institution participation in ICA's International Educational and Cultural Exchange program and the Smithsonian's foreign student program.

IV. Office of Horticulture: The Office of Horticulture utilizes the disciplines of horticulture as an educational, scientific, research and display program for the Smithsonian Institution. The Office performs a number of functions which include providing interior and exterior landscaping services, from design through installation and maintenance; research and development of historically-styled gardens and interior planting; maintenance of Smithsonian grounds and care of trees; operation of a large greenhouse-nursery complex; and the development and implementation of educational and display programs related to horticulture. Responsibilities of the Office also include pest control and snow and ice removal from sidewalks and parking lots. In FY 1980, the Office will develop and install an exhibition on Victorian garden furnishings, floral arrangements and horticultural styles. Funds to support the development of the exhibition are being raised from private sources.

Support given by the Office of Horticulture to Smithsonian exhibition programs through the provision of special interior horticultural landscaping and flower arrangements has increased substantially in recent years. This support has added to the effectiveness of exhibitions throughout the Institution, and has contributed greatly to the enjoyment of millions of visitors. Each year the Office provides more than 250 plant and flower arrangements for Smithsonian buildings, develops 25 landscape exhibitions, and rotates plantings in 45 flower beds on Smithsonian grounds. These activities involve the planting of more than 325,000 plants and bulbs annually.

The Office has accumulated valuable collections of data and reference materials on the history of horticultural styles, furnishings, and designs, which are a rich resource for scholars and others interested in the development of American horticulture and its antecedents. It has acquired an outstanding collection of rare orchids and other tropical plants for use in display and in research.

V. South Group Buildings Management: South Group Buildings Management is responsible for cleaning, minor maintenance, labor services, re-lamping, maintenance contract administration, and shipping and receiving for the Arts and Industries and Smithsonian Institution Buildings and for responding effectively to urgent situations which may affect their maintenance. These two buildings serve as the administrative center of the Institution and are occupied by a large number of organizational units which provide critically important services to the Institution. It is important that high levels of maintenance, janitorial and related services be maintained throughout these buildings for appearance, safety and efficiency. Services must be provided on a seven-day per week basis.

EXPLANATION OF PROGRAM INCREASE - Immediate Office, Assistant Secretary for Museum Programs - This Office maintains close liaison between national and international museum organizations and is actively involved in continuing reviews of problems and issues that bear upon museums and their capability to better serve the public and

preserve the collections entrusted to them. The Office has regularly initiated studies which have encouraged further efforts by museum and other professional organizations to pursue matters of interest to the profession. In recent years, such problems as museum storage, fumigation, training standards, evaluation programs, management of information, and museum conservation have been constructively addressed in this manner. For FY 1981, an increase of \$4,000 is requested to permit the Office to continue these studies through retention of qualified consultants to provide preliminary data on which to base further examination of such issues. Among the areas calling for study are training for conservators and conservation technicians, the role of archeometric research, bibliographic and archival resources essential to museum research and exhibits, and establishment of cooperative programs to support preservation of cultural property.

Office of Museum Programs - The Native American Training Program is a special function of the Museum Training Program. Its purpose is to assist Indian, Eskimo and Aleut groups to become familiar with sound museum techniques. These techniques then would be applied to their own tribal and reservation museums and cultural centers for the preservation, care, and display of artifacts and materials which are representative of their heritage. The Native American Training Program has contributed substantially to improvements in tribal museums and cultural centers and has enabled a few Native Americans to become better informed of ways in which to preserve the tangible evidence of their cultures. The Program has, however, been unable to provide a sufficient number of workshops, internships and advisory services to respond fully to the growing number of appeals for such assistance. In FY 1981, an increase of \$31,000 is requested to permit presentation of one additional workshop, award three additional internships, provide basic instructional materials, and supply additional technical assistance and advice to Native American museums. This increase would also provide funds for a part-time museum aide to assist with the Program.

Office of Horticulture - Additional resources of \$33,000 are requested to permit this Office to provide seasonal help to care for additional landscaped areas on Smithsonian grounds, including the grounds of the Museum of African Art, the redesigned Hirshhorn Sculpture Garden and the Sensory Garden being developed for the visually impaired. The funds also would be used to sustain a sufficient level of plant production and propagation in the Office's greenhouse-nursery complex located at the Old Soldiers Home to meet demands for floral and landscaping arrangements used in conjunction with Smithsonian exhibitions and programs.

South Group Buildings Management - An increase of one position and \$56,000 is requested for three purposes, to provide: critically needed improvements in the efficiency and security of the shipping and receiving function; additional janitorial assistance; and supplies and equipment for the Smithsonian Institution and Arts and Industries Buildings. Protected loading and handling space for incoming and outgoing materials is virtually nonexistent in these old and historic structures. The voluminous flow of diverse materials, ranging from computer and administrative records to irreplaceable objects and artifacts, creates log-jam situations that are hazardous to personnel and to the materials being moved. The addition of a shipping and receiving position and \$12,000 would be used to control the flow of people and materials providing an adequate measure of security and safety to both. The request for an increase of \$30,000 will provide for necessary part-time janitorial, labor assistance and cleaning supplies for the South Group Buildings during extended summer visitation hours when use of the buildings is at its peak. Finally, several pieces of essential maintenance equipment, particularly a high-rise forklift to serve the vast exhibit halls of the Arts and Industries Building, are old, non-repairable, and must be replaced. The cost for the equipment is estimated at \$14,000.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are derived from fees paid by participants in the Office of Museum Programs workshops; from proceeds from sales of tapes and slides on Conservation Theory and Practice, sold at cost to interested museums and related educational organizations; from the sale of horticultural materials through the museum shops; and from allotments. These funds are used to purchase supplies, services and equipment for training and conservation information programs; for horticultural materials; and for special events related to national and international museological activities. Also, in FY 1979, funds were expended from the Institution's Collections Acquisitions, Research and Education Program for the Native American Training Program (\$22,000). This Program is designed to assist and train Native American museum personnel in museum techniques. Expenditures under the Collections Acquisitions, Research and Education Program have been recorded for FY 1979, but not yet for FY 1980. This explains the variance in the totals shown between FY 1979 and FY 1980 and FY 1981.

Restricted Funds - Funds provided here are in the form of gifts and foundation grants from individuals, organizations and corporations for specific purposes. Examples include a grant made by the Andrew Mellon Foundation on behalf of the National Conservation Advisory Council for support of a publication on conservation requirements to be published early in FY 1980 (expenditures of \$8,000 in FY 1979); a grant from the Abrams Publishing Company for publication of a book on the collection and history of the National Museum of History and Technology (estimated expenditures of \$21,000 in FY 1980); and a gift from David Dibner to acquire rare books for the Dibner Library (estimated expenditures of \$2,000 in FY 1981). Both the Abrams and Dibner projects are under the direction of the Keeper of Rare Books who has been transferred to the Smithsonian Institution Libraries. Accordingly, expenditures under these projects will be recorded under the Libraries' restricted funds later in FY 1980.

OFFICE OF THE REGISTRAR

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING								FEDERAL GRANTS & CONTRACTS	
			UNRESTRICTED				RESTRICTED					
			General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount		
FY 1979 Actual	4	107	--	--	--	--	--	--	--	--		
FY 1980 Estimate	4	117	--	--	--	--	--	--	--	--		
FY 1981 Estimate	4	119	--	--	--	--	--	--	--	--		

*FTP = Full-time permanent positions

Detail of Federal Funding

	<u>Base FY 1980</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1981</u>
Number of Permanent Positions....	4	0	4
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	95	1	96
12 Personnel Benefits.....	10		10
21 Travel & Trans. of Persons....	3		3
25 Rent, Comm. & Utilities.....	5		5
24 Printing and Reproduction.....		1	1
25 Other Services.....	2		2
26 Supplies and Materials.....	1		1
51 Equipment.....	1		1
 TOTAL	<u>117</u>	<u>2</u>	<u>119</u>

Analysis of Increase

Necessary Pay.....	1
Inflation.....	1
Program Funds.....	0

ABSTRACT - The Office of the Registrar is responsible for the Institutional development, oversight and coordination of information management for all museum objects and specimens held by the Smithsonian. It is charged with the development of standardized systems for capturing data on the objects in the National Collections and with assisting the bureaus in the establishment of modernized information systems. No program increase is requested for FY 1981. Necessary pay in the amount of \$1,000 is required for existing staff and an amount of \$1,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - From the 1880s until 1976, the Office of the Registrar provided centralized registration services for the collections that are now part of the Museums of Natural History and History and Technology. Through the years, centralized support of these collections had become antiquated and inadequate while little centralized support was being provided for other collections. Consequently, traditional registration functions were completely

decentralized over a two-year period which ended in 1976. At that time, the emphasis was shifted from record keeping to systems improvement and the mission of the Registrar's office was expanded to provide support for all bureaus in the Institution.

Following the designation of collection inventory control as an urgent Institutional priority, this office developed the Smithsonian's policy and plan for conducting collection inventories in all museum bureaus. Coordination and monitoring of collection inventory processes have now become continuing responsibilities of the Office. Members of the staff assist individual museums to develop their inventory systems, with the goal of securing computerized inventory records for all Smithsonian collections. This effort is being pursued in concert with a related computerization program whose ultimate objective is the inclusion of inventory, cataloguing, registration and related data in compatible computerized files to permit exchange and consolidation of data for research and management purposes. In further support of these activities, the Office will continue to conduct a seminar program, initiated in FY 1978 for Smithsonian personnel in the information management aspect of collections management. Additional workshops on collections management are also held in cooperation with the Office of Museum Programs, for museum professionals throughout the country. Continuing responsibilities of the Office include managing the affairs of the Smithsonian Registrarial Council, through which interbureau registrarial business is conducted and cooperative procedures are developed, and coordinating the work of the Institution's Collections Policy and Management Committee, which has expanded its activities and established a number of subordinate task forces to conduct specific projects. The Office also maintains contacts with national and international organizations and associations concerned with applications of computers to collections management functions and with other museums involved with development of innovative automation processes.

CONSERVATION ANALYTICAL LABORATORY

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	22	627	--	--	--	--	--	--	--	--
FY 1980 Estimate	22	780	--	--	--	--	--	--	--	--
FY 1981 Estimate	29	896	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	22	7	29
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	503	75	578
12 Personnel Benefits.....	50	7	57
21 Travel & Trans. of Persons....	15	10	25
22 Transportation of Things.....	1		1
23 Rent, Comm. & Utilities.....	9		9
24 Printing and Reproduction....	12	4	16
25 Other Services.....	105	10	115
26 Supplies and Materials.....	45	5	50
31 Equipment.....	40	5	45
TOTAL	780	116	896

Analysis of Increase

Necessary Pay.....	11
Inflation.....	16
Program Funds.....	89

ABSTRACT - The Conservation Analytical Laboratory (CAL) is responsible primarily for advising and assisting Smithsonian museums in preserving the National Collections. It provides a wide range of services for this purpose. For FY 1981, CAL is requesting seven new positions and \$89,000 to prepare for the Museum Support Center conservation training program and operations. Necessary pay in the amount of \$11,000 is required for existing staff and an amount of \$16,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Conservation Analytical Laboratory was established in 1963 to serve the museums of the Smithsonian Institution. Staffed by conservators, scientists and technicians, the Laboratory provides expert services for the conservation and preservation of collections. These services include advising on the suitability of environmental conditions for objects displayed or stored in Smithsonian buildings; examining and treating objects for their

protection and preservation; analyzing objects for basic research data of interest to scientists and historians; developing, recording and managing data essential to the conduct of museum conservation; and conducting conservation training programs.

A major responsibility of the Laboratory is to provide conservation treatment for objects which cannot be treated locally, which present special problems, or require more specialized equipment than is available in museum bureaus. Conservator scientists also provide museum archeologists, historians, and curators with basic research data concerned with dates, attribution and ancient production methods.

Since the environment in which collections are stored or exhibited is extremely critical to their care, CAL monitors environmental conditions of museums and other buildings, advises on the suitability of those conditions, and suggests remedial action if necessary. (Commercial products proposed for prolonged contact with artifacts and specimens, such as fumigants used in storage, are tested and examined for their effects on the collections.)

The analytical functions performed by CAL serve two major purposes. First, the analyses of objects or their materials, such as pigments, ceramics, fibers, alloys or corrosion products using advanced instrumentation serve to determine appropriate conservation procedures. Based upon such examination, advice and technical guidelines are given to curatorial units for precise conservation procedures appropriate for specific objects. Second, the use of these analytical techniques to measure the specific characteristics of groups of objects and interpretation of the findings--a study known as archeometry--also enables CAL to provide archeologists and historians with basic research data concerning dates, attribution, and earlier production methods. For example, pewter made in Scotland may prove consistently different in alloying elements from pewter made in France. Some of the analytical processes of archeometry utilize techniques and equipment available in CAL; others require additional specialized and sophisticated equipment. In such instances, the CAL staff may utilize the electron microprobe in the National Museum of Natural History or the neutron activation facilities at the Brookhaven National Laboratory or at the National Bureau of Standards. Archeometry requires detailed study of large numbers of objects known provenance and therefore involves a partnership between archeologists or curators and the analytical scientists. Over the past few years, CAL has placed increased emphasis on the archeometry program for the study of objects and specimens of historical and archeological interest.

During FY 1979, CAL made more than 100 contacts and analyses on environmental conditions, provided 12,000 technical guidelines in conservation procedures in response to 1,000 specific requests, treated 216 objects, and responded to about 88 requests for analyses from the museums and other bureaus of the Institution. The CAL staff maintained close contact with conservation organizations throughout the United States and abroad and made significant contributions to the field through consultations and symposia. For example, each year up to three conferences are held, cosponsored by the Smithsonian and the National Bureau of Standards, focusing on various aspects of archeometry. The participation at these conferences is international in scope and the papers which are presented are published as a Smithsonian series.

Data processing furnishes vital support to CAL both for statistical compilation of analytical data and for access to conservation reports. CAL's computers now have the capability to receive information from the computer in the British Museum for the purposes of using its bibliographic tapes of "The Art and Archeology Technical Abstracts." CAL has established as a top priority a cooperative program with the Smithsonian Office of Computer Services for the improvement of the Smithsonian's conservation data research capability, to assure that essential data on conservation will be available at the Museum Support Center when it opens in late 1982, as part of the overall program to meet conservation informational needs at the Center. CAL provided, in FY 1979 a position to the Smithsonian Institution Libraries for a librarian to catalogue and coordinate library materials on conservation at the Institution and elsewhere and to make them more accessible to researchers.

In FY 1979 and continuing into FY 1980, a substantial effort has been devoted by CAL to identifying and defining, for the Museum Support Center architectural/engineering team,

the space and functional requirements to be incorporated in the new facility for conservation and conservation training purposes. CAL also prepared detailed lists of the equipment needed for its laboratories and training areas, and devised schedules for systematic and incremental staff development in anticipation of its increased responsibilities for conservation work and training at the Center.

CAL's request for additional equipment for its laboratories at the Support Center is detailed in the Special Programs section under Museum Support Center Equipment.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, CAL requests seven positions and \$89,000 to augment its conservation staff and to develop training programs at the Museum Support Center. CAL projects a gradual increase in staff from the present level, consisting primarily of conservators, conservation scientists, and persons qualified to provide conservation instruction. This increase will enable CAL to meet the expanding conservation needs of the Institution, reduce the backlog of materials requiring treatment, serve as a clearing house, nationally and internationally, for vital conservation information, and contribute to the training of qualified conservators and conservation technicians. These conservators and technicians are urgently needed to care for the irreplaceable collections which are the tangible evidence of our national heritage and which are held by museums throughout the country. It is anticipated that about 37 CAL staff positions will be stationed at the MSC for conservation treatment and training, and 13 in the existing laboratory in the History and Technology building to conduct archeometric and other conservation science research.

The positions sought in FY 1981 include an assistant director for CAL to provide additional administrative and technical services for the expanded operation at the Museum Support Center; two conservation training coordinators for the programmatic and technical aspects of the training program; two conservators; one environmental technician; and one clerk typist. The funds requested will enable CAL to employ this important core staff, starting at the mid-point of the fiscal year, so that detailed planning, including curriculum development for conservation training programs, and the coordination of expanded conservation work efforts, can be completed prior to occupancy of the Museum Support Center in late 1982. Full year funding for these positions will be required in FY 1982.

New facilities and staff in the Museum Support Center, combined with the laboratory and staff resources of the individual Smithsonian museums, and the great diversity of the collections, will make it possible for the Smithsonian, in cooperation with an area university, to offer a comprehensive conservation training program. Moreover, this training is essential to fill a critical national need. Presently, there are only four training programs that offer graduate level degrees or their equivalents in conservation in the United States, and these graduate fewer than 30 conservators a year. In addition, only a few major museums offer internship/apprenticeship level training in their conservation laboratories. The training program at the Museum Support Center will be of the highest technical quality so that students completing the program will enter the work force and start their careers as qualified apprentices to master conservators, which is the accepted practice in conservator career development, or as support technicians. When in full operation by FY 1987, CAL's conservation training proposes to develop approximately 51 qualified conservation apprentices each year. (A total of 62 students will be in training by then; this is expected to rise to 72 in the tenth year of operation.) It is critical, however, to the success of the program, that the conservation resources within the Institution be coordinated effectively and that the multitude of details concerning curriculum, faculty, intern qualifications and admission requirements, scholarships, and training schedules be worked out fully in cooperation with an area university, prior to the occupancy of the Center. The core staff requested for FY 1981, namely, the two conservation training coordinators guided by an assistant director and supported by a clerk typist, will be assigned to the planning effort required to meet the established timetable for admitting a small initial class in 1983.

The proposed two new conservator positions sought for FY 1981 are needed to cope with the expanding conservation needs of the Institution. Presently, there are only four conservators on CAL's staff and each year the number of objects requiring treatment continues to grow. Currently 542 requisitions for treatment (involving from one to seven objects) are outstanding; CAL is able to process approximately 200 per year. CAL projects that a staff of 14 conservators will be needed by FY 1985.

The new environmental technician proposed for FY 1981 is required to assist constant monitoring of Smithsonian buildings and to service hygrothermographs and hygrometers and keep them properly calibrated. CAL's staff currently includes one environmental technician. Staff projections point to the need for a total of three environmental technicians by FY 1985.

SMITHSONIAN INSTITUTION LIBRARIES

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	96	2,397	8	152	--	--	--	--	--	--
FY 1980 Estimate	99	2,802	9	180	--	--	--	--	--	--
FY 1981 Estimate	100	3,009	11	241	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	99	1	100
Number of Other Positions.....	4	4	8
11 Personnel Compensation.....	1,817	81	1,898
12 Personnel Benefits.....	175	8	183
21 Travel & Trans. of Persons.....	12	1	13
22 Transportation of Things.....	2		2
23 Rent, Comm. & Utilities.....	20	2	22
24 Printing and Reproduction.....	92	6	98
25 Other Services.....	163	59	222
26 Supplies and Materials.....	300	23	323
31 Equipment.....	221	27	248
 TOTAL	 2,802	 207	 3,009

Analysis of Increase

Necessary Pay.....	32
Inflation.....	56
Program Funds.....	119

ABSTRACT - The Smithsonian Institution Libraries provides library and information services to support the research, exhibit, public service and education programs of the Institution. In FY 1981, an increase of one position and \$119,000 is requested. This includes: (1) one position and \$13,000 to enable the Cooper-Hewitt Museum Library to provide additional hours of service; (2) \$35,000 to extend the use of automated reference services; (3) \$25,000 to improve the automated record of the Libraries' serials holdings; (4) \$32,000 to begin to make full inventory records of those books held by the Libraries for which no records exist; (5) \$12,000 for part-time clerical assistance for the Keeper of Rare Books; and (6) \$2,000 to purchase books and journals for new and rapidly growing programs. Necessary pay in the amount of \$32,000 is required for existing staff and an amount of \$56,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Smithsonian Institution Libraries is a library system comprised of ten bureau libraries and six major branches as well as many departmental library locations. Four independent bureau libraries are affiliated with the system. The system is supported by a large central reference and interdisciplinary library and by reference, circulation, acquisitions, cataloguing, conservation and administrative services. The bureau library collections are especially strong in natural history, American ethnology and culture, tropical biology, decorative arts and design, astrophysics, and the history of science and technology, including the Dibner Collection of rare books and manuscripts. Collections in the history of aeronautics and astronautics are developing rapidly. The central library includes a superior collection of reference materials and has strong resources in ecology, explorations and professional and academic publications in all fields of interest to Smithsonian researchers.

In FY 1980, the Libraries assumed administrative responsibilities for the Library of the Museum of African Art. An amount of \$21,000 and one position was transferred to the Smithsonian Institution Libraries from the Museum of African Art's base funds as a result of the assumption of these responsibilities. The Libraries also began to provide central acquisitions, cataloguing and conservation services, central interlibrary loan services, and some reference services to the Museum staff.

Machine-assisted reference services, offered for the first time in FY 1979 in the Libraries, will have been expanded during FY 1980 to include on-line services in some bureau libraries. On-line interlibrary loan services will increase the speed with which materials can be borrowed from other libraries as well as make the Libraries' collections more accessible to others. An anticipated accomplishment, by the end of FY 1980, is the major reorganization of the Cooper-Hewitt Museum Library. This will result in an effective library service being made available to the staff of the Museum and to the design community as a whole. In FY 1980, the Libraries also will continue to apply automation to various operations to increase productivity and timeliness and to provide new services. The implementation of an automated catalogue will be initiated by selecting a vendor, planning and testing the new system, acquiring necessary equipment (e.g., microform readers), and by conducting user and staff orientation programs. While the early format of the new catalogue will be computer-produced microforms, the long-range goal of the new system will be an automated catalogue with on-line computer access.

Expanded use of automation will enable the elimination of the growth of cataloguing backlogs. The increased use of the Ohio College Library Center's on-line cataloguing system will increase productivity in cataloguing journals, and improvements in the Libraries' automated acquisitions system will facilitate timeliness in ordering. Claims for materials not received promptly will be generated by the computer.

By the close of FY 1980, planning for the implementation of the revised internationally accepted cataloguing rules (Anglo-American Cataloguing Rules II) will be in its final stages. These rules will be implemented on January 2, 1981.

Major improvements in the Libraries' conservation program are underway as a result of new funds appropriated by the Congress for FY 1980. As cited in previous years, approximately 18 thousand rare volumes require restoration work. The addition of two temporary conservators to the staff will enable approximately 500 volumes to be restored in the Libraries' Conservation Laboratory and outside contracts will allow an additional 50 volumes to be treated. Other improvements in the conservation program will include planning for creating the environmental conditions proper for library materials and implementation of a corrective program for materials damaged by flood, fire or other disasters.

In FY 1979, as part of an overall program to meet conservation informational needs, one position and \$18,000 were transferred to the Libraries from the Conservation Analytical Laboratory for a librarian to catalogue and coordinate library materials on conservation.

Several studies will be conducted during FY 1980, the results of which will lead to more effective organization and use of staff. A study of cataloguing services has been

completed, a study of acquisitions services is in progress, and a study of the effectiveness of reader services and bureau library operations will begin shortly with the National Museum of History and Technology Library. A program to improve space in the central library area will be undertaken with funds appropriated in the Restoration and Renovation of Buildings Account in FY 1980.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of one position and \$119,000 is requested to improve services at the Cooper-Hewitt Museum Library; to expand the use of the automated reference service; to improve the automated serials program; to bring additional materials under inventory control; to provide additional clerical assistance; and to increase book and journal purchases.

The Cooper-Hewitt Museum Library contains 30 thousand volumes and 1.5 million pictures. Its collections, rich in the subjects of decorative arts and design, are used by the staff of the Museum as well as by the design community. In FY 1980, the Smithsonian Institution Libraries will undertake a major reorganization of the Cooper-Hewitt Museum Library with a view toward providing more effective services to its users. The current Museum Library staff consists of one librarian and one technician. In FY 1981, one new technician position and \$13,000 are sought to permit the Library, which presently is open by appointment only, to be open for 40 hours per week. The new technician also will assist with maintenance of proper security control and upkeep of the collections.

An amount of \$35,000 is requested to meet the greater demand for automated reference services. These services apply computer technology to precise searching of indexes, abstracts, and other informational computer data bases. Their use reduced substantially the costly time spent by researchers and reference librarians searching through volumes of printed materials and also provides a more precise search. Of the \$35,000 requested, funds of \$20,000 are sought to pay for access to these reference services which are available commercially, and an amount of \$15,000 is requested to purchase six additional computer terminals. These terminals will enable the reference services to be provided in those Smithsonian museum or research organization libraries where there is heavy use or which are too removed to use the central facility effectively. These terminals also will allow on-line access to the catalogue of holdings of major research libraries in this country and, ultimately to the Libraries' own on-line catalogue planned for the future.

The Libraries' present automated record of serials contains some information on the approximately 18 thousand serial titles held by the Smithsonian but does not include information on the exact volumes and years. An additional sum of \$25,000 is sought for temporary staff who are needed to code and enter holdings information into the automated record system. With this information, the system will be a much more useful tool for researchers. At the same time a system will be planned to keep the basic holdings information up to date. The improved serials data base will provide a central inventory record and serve as the basis for a fully-automated serials control system in the future.

The Libraries' union catalogue provides the primary means of access for users of the collections. It also serves as the central inventory record of Smithsonian holdings. There are, however, approximately 15 thousand titles for which no records exist. An amount of \$32,000 is sought to establish a program to make full inventory records of these collections. The funds are designated for a temporary (term) employee to coordinate the program and for outside cataloguing services. As part of this inventory, reviews of major collections will be made to identify materials which are no longer needed, which can be moved to remote shelving areas, or which, because of their extraordinary research value, should be moved to more secure and environmentally controlled areas.

In FY 1979, the position of Keeper of Rare Books was transferred to the Libraries to encourage research using the rare book collections, promote donations of rare books to the Institution, and make people aware of the existence of the rare book collections. An increase of \$12,000 is requested to provide part-time clerical assistance to the Keeper of Rare Books in support of these efforts.

An amount of \$2,000 is requested to allow the Libraries to augment slightly the book and journals' budget for the Museum of African Art which presently relies on gifts and bequests.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided in the form of an annual allotment to cover nine positions for FY 1980 and 11 positions projected for FY 1981. They are also used for travel, supplies, book binding, and training. In FY 1980, funds of \$20,000 have been allotted to the Libraries for the purchase of works of scholarly value. The Libraries traditionally has charged a portion of its expenses to Trust funds, reflecting the fact that it provides services to programs and offices which are funded from gifts, grants, contracts and other sources of funds.

Restricted Funds - Funds are provided in the form of gifts and foundation grants from individuals, organizations and corporations for specific use by the Libraries. For example, in FY 1980, the Libraries received a \$50,000 grant from a private foundation to collect the data for and to produce a list of art periodicals in metropolitan Washington libraries. The work resulting from this grant should be completed in October 1980. (This amount was not included in the summary chart in order to be consistent with the Institution's Five-Year Prospectus, which was prepared prior to the receipt of this foundation grant.)

OFFICE OF EXHIBITS CENTRAL

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	47	1,167	--	--	--	19	--	7	--	--
FY 1980 Estimate	47	1,266	--	--	--	6	--	--	--	--
FY 1981 Estimate	47	1,290	--	--	--	5	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	47	0	47
Number of Other Positions.....	1	0	1
11 Personnel Compensation.....	1,045	15	1,060
12 Personnel Benefits.....	97	2	99
21 Travel & Trans. of Persons....	3		3
22 Transportation of Things.....	1		1
23 Rent, Comm. & Utilities.....	4	-4	
24 Printing and Reproduction....	1		1
25 Other Services.....	5	15	20
26 Supplies and Materials.....	76	7	83
31 Equipment.....	34	-11	23
TOTAL	<u>1,266</u>	<u>24</u>	<u>1,290</u>

Analysis of Increase

Necessary Pay.....	17
Inflation.....	7
Program Funds.....	0

ABSTRACT - The Office of Exhibits Central (OEC) prepares exhibits and exhibit-related products for museums, bureaus, programs and other offices that do not have, or have limited, internal exhibit-producing capabilities. The OEC also provides specialized or supplementary assistance to all other bureaus and offices. No program increase is requested for FY 1981. Necessary pay in the amount of \$17,000 is required for existing staff and an amount of \$7,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The OEC designs, edits, produces, installs and maintains exhibits; makes films and models; and provides other specialized services to the museums, bureaus, programs and other offices of the Institution in order to support their exhibit activities. These services expand the capabilities and resources of units without full-time or specialized exhibits staffs, and supplement the capabilities of those units that have their own staffs. In addition to actual job performance, consultation and referral of certain work to other

sources during especially busy periods are important parts of OEC operations. Highly specialized OEC capabilities include editorial services, motion picture production, audiovisual presentation, lighting, freeze-dry taxidermy, and the services of the models, plastics and restoration units which specialize in museum uses of fluid thermosetting and reinforced plastics.

The OEC offers complete or partial exhibition support, depending on the specific needs of the requesting Smithsonian unit, and participates in highly specialized long-range projects as well as the more immediate short-duration presentations of the Institution. For example, work on three-dimensional settings for extinct plants (paleobotany dioramas), for an exhibition opening at the National Museum of Natural History in 1980, has spanned two years, while a special exhibition organized by the National Portrait Gallery in honor of Pope John Paul's visit was completed in a matter of weeks.

In coordination with the Office of Museum Programs, the OEC also provides training in exhibition media and techniques in workshops for museum professionals throughout the world. New techniques, systems, and procedures used in exhibits fabrication are reported to the museum community. The Office also maintains relationships with the Government offices that have public exhibition responsibilities.

In FY 1979, the OEC received over 200 separate project requests. About 80 percent of these projects were completed during the year. Particular assistance was provided to the Smithsonian Institution Traveling Exhibition Service, for which OEC worked on more than 25 exhibitions. These services included design, editing and production as well as fabrication of several special one-way shipping crates. They were used for returning to lenders the materials from several SITES exhibitions that had completed their tours.

Also during FY 1979, the OEC motion picture unit produced and directed a 28-minute color film on Thomas Edison, in conjunction with an exhibition at the National Museum of History and Technology on the 100th anniversary of the electric light and also produced a 30-second TV spot to be used by PBS stations to announce the exhibition. The balance of the FY 1979 projects will be completed in FY 1980. In FY 1981, the same level of work for the Office is projected.

The OEC is working on ten traveling exhibition projects that will be completed in the first half of calendar year 1980. Also scheduled during FY 1980 are workshops, a series of brochures, editing labels and other exhibit-related text materials, and the production of graphics, models and accessories for several museums and program offices. OEC services for the Folklife Festival are in the planning stages, as are other activities for a variety of Smithsonian programs.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by tuition fees received from local universities and from the sale of film prints. They are used to fund temporary clerical assistance for the motion picture unit, miscellaneous expendable supplies, support costs for exhibits design and construction, and travel related to consultation with other museums on exhibition techniques and developments.

Restricted Funds - Restricted funds were used in FY 1979 for miscellaneous expendable supplies.

SMITHSONIAN INSTITUTION TRAVELING EXHIBITION SERVICE

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	6	145	15	821	--	24	--	4	--	32
FY 1980 Estimate	6	159	16	807	--	--	--	--	--	--
FY 1981 Estimate	6	163	16	905	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	6	0	6
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	120	3	123
12 Personnel Benefits.....	12		12
21 Travel & Trans. of Persons....	3	1	4
22 Transportation of Things.....	17		17
23 Rent, Comm. & Utilities.....	6		6
25 Other Services.....	1		1
TOTAL	159	4	163

Analysis of Increase

Necessary Pay.....	3
Inflation.....	1
Program Funds.....	0

ABSTRACT - The Smithsonian Institution Traveling Exhibition Service (SITES) provides carefully selected, well-designed and widely circulated traveling exhibits covering a diversified range of offerings in the fields of art, design, science, technology, history and education. These include exhibits from the Smithsonian's collections as well as exhibits organized and lent by numerous Government agencies, individuals and organizations throughout the world. No program increase is requested for FY 1981. Necessary pay in the amount of \$3,000 is required for existing staff and an amount of \$1,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - SITES is now in its 28th year of providing exhibition service to qualifying organizations in the United States. The exhibitions are complete productions and are accompanied by handling instructions, technical information, public affairs materials, suggested educational programs and, in many instances, catalogues. The Service is the largest of its kind in the United States and the only one that provides a broad program encompassing the diverse disciplines covered by the Smithsonian Institution.

Millions of individuals view SITES exhibitions each year through their local museums, galleries, and educational and cultural institutions. SITES also has become an essential element in the program planning of thousands of exhibit-sponsoring organizations. Organizations benefit from traveling exhibitions directly by being able to book a traveling exhibition for a fraction of the cost that would be required were they to develop the exhibition themselves. During FY 1979, an average of 150 exhibitions were on tour at any given time. News of these exhibitions reached the 7,000 institutions on the SITES mailing list through the annual catalogue, the quarterly newsletter, and special mailings prepared by SITES. During FY 1979, 30 new shows joined the SITES program. Most of these (27) featured original objects; the remainder (3) consisted of panel exhibitions. Also in FY 1979, were 660 bookings of the shows on tour, attended by an estimated five million persons. Forty-eight states were served, in addition to Panama, Mexico and Canada.

During FY 1980, an average of 140 exhibitions will be on tour. The decline in the total is caused by the retirement of several panel shows which were primarily developed in conjunction with the Bicentennial and have now exhausted their service potential. It is expected that 720 shows will be booked in FY 1980.

In FY 1981 it is anticipated that exhibition strength will remain at 140 shows on tour. Approximately 30 new shows will be developed to replace an equal number being retired from circulation. In response to exhibitors' requests, SITES is developing more object-oriented exhibitions. Approximately 90 percent of the exhibitions most recently produced contain original objects. Panel shows are also popular. These appear in a variety of formats particularly as "information core" panel exhibitions; these enable exhibitors to expand the exhibition through the addition of local artifacts and/or programs.

The FY 1980 Federal base of six positions and \$159,000 represents approximately 16 percent of SITES' operating budget. The remainder is either self-generated through fees charged for the service, provided by nonappropriated Trust funds of the Institution, or by grants and contracts. Federal assistance received by SITES is essential for achieving one of the goals of the Traveling Exhibition Service, which is to assure that fees paid for exhibitions remain within the budgetary reach of most participating museums and galleries. SITES, as a result, is able to maintain a list of exhibitions that rent for \$300 or less. This target makes it possible for hundreds of potential exhibitors with limited financial resources to present exhibitions of high quality. It is precisely those organizations with limited financial resources that benefit most from Smithsonian traveling exhibitions, for they generally lack their own exhibition design and production capabilities. The growth in the number of these smaller organizations is astounding. SITES receives an average of 200 requests for information about its service each month; of that number, about 30 are added to the SITES mailing list. With the growing number of organizations drawing on SITES resources, the need for well-developed, low-cost exhibitions is more necessary than ever.

Exhibitions Toured By SITES

Based on Smithsonian Collections - FY 1980: Dance masks of Mexico; Crosscurrents: Neoclassical Drawings and Prints from the Cooper-Hewitt Museum; Designs of the N'Debele; Cut on Wood; Pochoir; Eilshemius; Images of Earth from Space; and Urban Open Spaces.

FY 1981: Loose the Mighty Power; Selections from the National Portrait Gallery; The Space Shuttle, Flying for Fun; Collages from the Hirshhorn; and Innovative Furniture in America.

Based on Other Sources - FY 1980: Contemporary Czechoslovakian Printmakers; Quint-essential Quilts; Albert Einstein Photographs by Jacobi; Butterflies!; Charles Burchfield; Invisible Light; Daum: 100 Years of Glass and Crystal; A Gift to the Street; From All Walks of Life; Images of Old Age; Ice Age Art; Musical Manuscripts; The Faralloon Islands; Jacob Jordaens; The Year of the Hopi; The Working American; Patterns and Sources of Navajo Weaving; Reflections: The Child in America; Ryijy Rugs from Finland; and Sevres Porcelain.

FY 1981: Ban Chiang; World Print Competition III; Berlin Porcelain; Kings, Heroes and Nomads; The West Comes East; Ecuadorian Fiesta Costumes; The Indian Eye; Mexico As Seen by Her Children; Portraits and Dreams of Appalachian Children; Chinese Children's Art from the Peoples Republic of China; Venini Glass; and The Contemporary American Potter.

The following bookings were scheduled for FY 1979:

Alabama	10	Montana	3
Alaska	1	Nebraska	5
Arizona	3	Nevada	4
Arkansas	1	New Hampshire	1
California	20	New Jersey	10
Colorado	10	New Mexico	1
Connecticut	10	New York	29
Delaware	3	North Carolina	10
District of Columbia	1	North Dakota	1
Florida	18	Ohio	10
Georgia	8	Oklahoma	4
Hawaii	1	Oregon	5
Idaho	0	Pennsylvania	17
Illinois	17	Rhode Island	2
Indiana	7	South Carolina	3
Iowa	7	South Dakota	4
Kansas	5	Tennessee	7
Kentucky	3	Texas	19
Louisiana	4	Utah	3
Maine	1	Vermont	0
Maryland	6	Virginia	15
Massachusetts	9	Wisconsin	10
Michigan	14	Washington	8
Minnesota	10	West Virginia	12
Mississippi	5	Wyoming	2
Missouri	7		

Total: 366 cities served in 48 states and in the District of Columbia

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from rental fees collected from museums, universities, historical societies and other users of the traveling exhibitions. These funds, supplemented by an allotment, support 16 positions and virtually all exhibition development costs including publications, materials, outside specialists and contractual services.

Restricted Funds - Funds are provided in the form of gifts and foundation grants from individuals, organizations and corporations for specific purposes. In FY 1979, a grant from the Louisiana State Museum was used for the "Louisiana Singing Century" exhibit. No additional funds are anticipated for FY 1980 or FY 1981.

Federal Grants and Contracts - The funding in this category comes from various federal agencies for the development and touring of specific exhibitions. The Department of Transportation provided an amount of \$50,000 (expended in FY 1978 and FY 1979) for preparation, shipping and related touring costs of the Cooper-Hewitt exhibit "Subways, An Underground Exhibition." No additional funds are anticipated for FY 1980 or FY 1981.

SMITHSONIAN ARCHIVES

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	13	324	2	29	--	1	--	--	--	--
FY 1980 Estimate	13	354	2	44	--	--	--	--	--	--
FY 1981 Estimate	13	363	2	40	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	13	0	13
Number of Other Positions.....	2	0	2
11 Personnel Compensation.....	295	4	299
12 Personnel Benefits.....	28	1	29
21 Travel & Trans. of Persons....	3		3
22 Transportation of Things.....	1		1
24 Printing and Reproduction....	1		1
25 Other Services.....	8	2	10
26 Supplies and Materials.....	7	1	8
31 Equipment.....	11	1	12
TOTAL	354	9	363

Analysis of Increase

Necessary Pay.....	5
Inflation.....	3
Program Funds.....	1

ABSTRACT - The Smithsonian Archives is the official memory of the Smithsonian Institution and an important research resource for scholars working in the history of American science and culture. For FY 1981, an increase of \$1,000 is requested to fund a fellowship for a disabled student. Necessary pay in the amount of \$5,000 is required for existing staff and an amount of \$3,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The overall goal of the Smithsonian Archives program is to preserve valuable archival documentation created by the Institution and to provide access to this documentation to administrators, scholars and scientists. The archives also are used to document the Smithsonian's specimen collections. Much of the documentation is sent to the Archives for processing and storage, but a large amount also remains in administrative or curatorial offices. Accordingly, the Archives provides access through centralized information systems to documentation that must remain dispersed.

Currently some 30 percent of the approximately 40 million documents that comprise the archival resources of the Institution are in the custody of the Archives. An additional 30 percent dispersed throughout the Institution are accessible through the Archives' central information systems. The remaining 40 percent has not yet been brought under archival control.

During FY 1979, the Archives accessioned some 956 thousand documents, bringing its total holdings to approximately 13 million documents, and responded to 821 reference requests and 456 requests for retrieval from accession records. The decline in the number of requests for the retrieval of accession records from FY 1978, when 736 requests were answered, results from the success of the Archives' program in microfilming the accession records and the increasing use of the microfilm by bureau registrars. Other work accomplished in FY 1979 and underway in FY 1980 includes continued progress on reducing the massive backlog of records in the National Museum of Natural History, a project which will be completed in FY 1980; continued work on records of the National Museum of History and Technology, which should bring approximately 600 thousand documents under archival control by the end of FY 1980; a records survey at the Cooper-Hewitt Museum of Decorative Arts and Design leading to an archival and records management program in FY 1980, which will bring about 450 thousand documents under control; a records survey of the Office of Supply Services; authorization of the destruction of 200 thousand documents in the Accounting Office (any destruction of records is done in accordance with accepted standards for the retention of records); and the establishment of a joint program with the Office of Printing and Photographic Services designed to catalogue and make accessible 500 thousand negatives comprising the photographic record of the Smithsonian.

Major efforts planned during FY 1981 are the establishment of complete archival and records management programs in the Smithsonian's art museums; the issuance of a manual and the establishment of workshops designed to help the creation of archival programs in the museum community; the establishment of records management programs in the National Museum of Natural History, the National Museum of History and Technology, and the Smithsonian Astrophysical Observatory; and a reduction in the 2.7 million document backlog in the central Archives.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of \$1,000 is requested for a summer fellowship for a disabled college student. The Archives has sponsored three-month long fellowships for deaf students from Gallaudet College in the past when funds permitted. These fellowships have provided practical experience in archives administration for the students and the Smithsonian has found the program valuable because of the fine work that the students have done. With the proposed increase, the program could be established on an annual basis.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided in the form of an annual allotment to cover the salaries of an archivist, an archives technician, and support costs.

NATIONAL MUSEUM ACT

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	3	792	--	--	--	--	--	--	--	--
FY 1980 Estimate	3	802	--	--	--	--	--	--	--	--
FY 1981 Estimate	3	803	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	3	0	3
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	61	1	62
12 Personnel Benefits.....	6		6
21 Travel & Trans. of Persons....	9		9
24 Printing and Reproduction....	4	2	6
25 Other Services.....	6		6
26 Supplies and Materials.....	1		1
31 Equipment.....	1		1
41 Grants.....	714	-2	712
TOTAL	802	1	803

Analysis of Increase

Necessary Pay.....	1
Inflation.....	0
Program Funds.....	0

ABSTRACT - The National Museum Act (NMA) is a technical assistance program under which grants are made for specific proposals to enhance the quality of museum operations by training in museum work, encouraging research and special studies for improvement of museum methods and practices, and assisting in the dissemination of technical information to the museum profession. No program increase is requested for FY 1981. Necessary pay in the amount of \$1,000 is required for existing staff.

PROGRAM - Funds appropriated to the Smithsonian Institution for implementation of the National Museum Act are granted to museums, professional museum-related associations, and universities for projects which meet the standards and objectives set by the Act. The National Museum Act Advisory Council, appointed by the Smithsonian Institution, advises and assists the Secretary in determining priorities and assessing the quality of projects for which support is requested under the Act. The membership of the Advisory Council encompasses the principal museum disciplines--art, science and history--and broadly

represents all regions of the United States. Only those proposals which demonstrate thought, planning, careful structure, and sound administration are recommended for support by the Advisory Council.

Since the program's inception, grants have been provided for fellowships, internships, seminars and workshops, and travel-study projects, many of them concentrating on studies in museum conservation. The Act has enabled professional museum organizations and associations to offer improved technical services to museums and their employees and has contributed to studies and research resulting in more effective museum performance and more advanced conservation practices. In FY 1979, 189 applications for support were received and reviewed, and 71 grants totalling \$702,000 were made. Of these, 30, for a total of \$526,000, were related to museum conservation training and research activities.

Following the first grant applications submission deadline in FY 1980, 117 applications requesting support for professional training were reviewed at the November 1979 Advisory Council meeting and 51 grants totalling \$447,000 were awarded. Eight were designated for seminar/workshop activities, 20 for conservation studies, 11 for museum internship programs, seven for graduate/professional museum education and training, four for travel/study fellowships, and one for professional assistance. As a result of these projects, training opportunities will be extended to approximately 600 individuals including 40 who are seeking training in museum conservation. An additional 35 applications, submitted under the professional assistance, special studies and research programs will be reviewed in March 1980.

In order to coordinate efforts and to meet, insofar as possible, the increasingly complex needs of museums, staffs of the National Museum Act and of the Office of the Assistant Secretary for Museum Programs work closely with individuals, museums, educational institutions and professional organizations involved in museum training and research activities. The NMA also consults regularly with those who administer Federal programs which assist museums and it participates in the deliberations and activities of the Working Group on Museum Policy of the Federal Council on the Arts and Humanities.

Continuous liaison is maintained with the National Conservation Advisory Council (NCAC) which is funded by the Act. The reports issued by this Council represent an unprecedented effort to assess the nation's needs in conservation training, research and facilities requirements and in identifying the most effective means of meeting those needs. Major NCAC activities for FY 1980 include the preparation of a formal proposal to create a national institute for conservation and the development of a comprehensive plan to identify and quantify the types and numbers of cultural materials in urgent need of conservation in the United States. Through its Committee on the Provision of Conservation Treatment Services, the NCAC will continue its evaluation of regional conservation centers and other facilities that provide conservation treatment and will publish a second report which will address the significant conservation questions which have surfaced within the past two years.

SMITHSONIAN INSTITUTION SPECIAL PROGRAMS

Summary

These special programs make use of total Institutional resources, including both staff research competence and the collections, and encourage interbureau or interdisciplinary cooperation. They produce outstanding scholarship, presentations and additional opportunities for public education. Special programs include:

- the American Studies and Folklife Programs which coordinate the study and presentation of the material aspects of American civilization and the traditional folk cultures of the United States. This program provides a focal point for these areas dispersed in several bureaus. No program increase is sought for FY 1981.
- the International Environmental Science Program (IESP) which coordinates the special capabilities of the Smithsonian's science bureaus to study complex biological processes in order to better understand them so that solutions to national ecological problems can be determined. For FY 1981, a program increase of \$100,000 is requested to update and improve IESP's automatic data processing.
- the Academic and Educational Programs offices which conduct interdisciplinary seminar series, coordinate educational programs for students at the elementary and secondary schools levels, provide opportunities for outstanding pre- and postdoctoral investigators to work at the Institution using staff and collections resources, and administer the Special Foreign Currency Program of research grants. For FY 1981, an increase of one position and \$54,000 is requested for the Office of Elementary and Secondary Education to continue to develop activities to make Smithsonian education programs and special events accessible and available to handicapped visitors.
- the Collections Management/Inventory Program which represents a comprehensive effort to achieve full inventory control of the Smithsonian collections. This centralized program has been established as a supplement to individual museums' continuing programs to assure effective coordination of inventory work and to address the most urgent and critical needs. No program increase is sought for FY 1981.
- the Major Exhibition Program which represents a new line item in the Smithsonian's budget. The Program's purpose is to reinstitute centralized support of major history and art exhibitions which can not be funded within the base resources of an individual museum. For FY 1981, an amount of \$1,000,000 is requested to establish the Program.
- the Smithsonian National Awareness Program which is a new program proposed to begin in FY 1981, and is designed to focus public attention on the key issues of energy and the preservation of natural environments. The Program which is interdisciplinary in nature will draw upon the resources of several units in the Science Activity to present exciting and innovative exhibitions and various educational materials, including films and written and oral presentations. For FY 1981, an amount of \$600,000 is requested to initiate this Program.
- the resources provided for Museum Support Center Equipment. The requested increase of \$2.5 million in FY 1981 consists of resources to provide a storage equipment system for the Museum Support Center; to equip and furnish an expanded Conservation Analytical Laboratory which will be located at the Support Center; and to incorporate a security system into the building. This request is included in the Special Programs Section in order to emphasize that resources for essential equipment items will be sought over a fixed time period and these additional resources will not be incorporated into the permanent base resources of any organizational unit.

AMERICAN STUDIES AND FOLKLIFE PROGRAMS

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	4	346	8	212	--	67	--	13	--	66
FY 1980 Estimate	4	488	11	480	--	5	--	15	--	80
FY 1981 Estimate	4	506	8	297	--	5	--	15	--	120

*FTP = Full-time permanent positions

Detail of Federal Funding

	<u>Base FY 1980</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1981</u>
Number of Permanent Positions....	4	0	4
Number of Other Positions.....	24	0	24
11 Personnel Compensation.....	236	2	238
12 Personnel Benefits.....	23		23
21 Travel & Trans. of Persons....	11		11
22 Transportation of Things.....	5	1	6
23 Rent, Comm. & Utilities.....	11	1	12
24 Printing and Reproduction.....	46	3	49
25 Other Services.....	116	7	123
26 Supplies and Materials.....	29	2	31
31 Equipment.....	8	2	10
42 Insur. Claims & Indem.....	3		3
 TOTAL	<u>488</u>	<u>18</u>	<u>506</u>

Analysis of Increase

Necessary Pay.....	2
Inflation.....	16
Program Funds.....	0

ABSTRACT - The Office of American and Folklife Studies conducts studies of the material aspects of American civilization and the traditional folk cultures of the United States. No program increase is requested for FY 1981. Necessary pay of \$2,000 is required for existing staff and an amount of \$16,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Office of American Studies sponsors a graduate program in American material culture in cooperation with various universities in and out of the Washington, D.C. area. Four or five seminars a year are offered for academic credit and are taught by the director of the program and by cooperating scholars. In addition to the regular American Studies courses offered to graduates, a number of folklife courses have been added to the

offerings in the past two years, taught by members of the Folklife Unit of the Smithsonian and by folklife personnel outside the Institution.

The Institution's Folklife Program engages in scholarly research and publication and actively cooperates with the Library of Congress American Folklife Center and the National Endowments for the Arts and the Humanities on programs designed to reach large numbers of people outside the Washington, D.C. area. Examples of such cooperative programs are a collaborative field research project in Paradise Valley, Nevada, which is leading to the publication of monographs and arrangements for the participation of residents of Paradise Valley in the 1980 Folklife Festival. The Folklife Program also presents the Smithsonian's annual Festival of American Folklife.

In 1979, the 13th annual Festival highlighted a Caribbean Carnival with participants from east coast cities, Toronto, and Montreal; the recreation of an old-time medicine show with pitchmen and musicians who participated in the last of these shows in the 1940s; and a presentation of the traditions of Vietnamese Americans in the Washington area. Following the Festival, traditional crafts demonstrations were presented as part of the exhibit, "The Afro-American Tradition and Decorative Arts," which opened in the Museum of History and Technology on October 15, 1979.

Preceding the Festival, a special program entitled "Folklife in the Museum" was held in the National Museum of History and Technology. Traditions in American folk medicine were the subject of discussions and demonstrations within the context of the exhibits in the Museum's medical science area. A scholarly symposium on folk medicine was held in conjunction with this program. In FY 1980, "Folklife in the Museum" will feature presentations of buckaroo culture from Nevada and Oregon. These presentations will be held within the context of exhibits in the Renwick Gallery and the Museum of History and Technology.

Research activities in FY 1980 will include the completion of five scholarly monographs, all based in part on Festival materials. Topics include American ethnicity, sleeping car porters, an oral history of the Dunham School on exhibit at the National Museum of History and Technology, street hawkers, and a monograph on occupational narratives. In addition, a book is being published on Haya oral narratives from Tanzania entitled, See So That We May See, in the spring of 1980. The Folklife Program also published two cookbooks in connection with the 1979 Festival. One contained Caribbean recipes and the other presented recipes for foods made at the time of Vietnamese holidays and celebrations. Research and publication projects for FY 1981 include a monograph on the maintenance of ethnic identity among the D.C. area Vietnamese, a monograph on performance and identity, a textbook on applied folklore, a biography of bluegrass musician Bill Monroe, and a book on Haya epic songs.

In addition, three ethnographic films were completed in FY 1980 on the Paiutes of Nevada, hollers and street calls in east coast fish and vegetable markets, and Indian puppeteers of Rajasthan. In FY 1981, two additional film projects are contemplated; a francophone film from footage taken at the Bicentennial Festival and a film on a traditional community festival. Both films will have accompanying monographs.

The Folklife Program's other major program activity during this period concerns the special year-long exhibition planned for the Renwick Gallery in 1981-82 entitled "Celebration." A description of this Institutional exhibition of folklife objects is provided under the new Major Exhibition Program heading in the Special Programs section of this budget on page A-139.

Work on this exhibition, on the continuing "Folklife in the Museum" series, on further publications and films, on cooperative outreach projects with other folklife organizations, and 1980 and 1981 Festivals will mark FY 1981 as the Folklife Program's most active year to date.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided from tuition reimbursements from universities for students participating in the various training programs, from concession sales relating to the Folklife Festival, and from allotments, including those of the Institution's Collections Acquisitions, Research and Education Program. Expenditures under that program totaled \$27,500 in FY 1979 and supported the Folklife outreach program. Expenditures under the Collections Acquisitions, Research and Education Program have been recorded for FY 1979, but not yet for FY 1980. The Folklife Program can, however, expect to receive and spend funds made available through this Program in FY 1980 and FY 1981. In addition, in FY 1980, funds will be used to support the annual Festival of American Folklife (\$100,000); the Renwick Folklife exhibition (\$125,000); research and publication projects (\$50,000); and to pay the salary, benefits and other costs of the staff members of the Folklife Program.

Restricted Funds- Funds are provided in the form of individual gifts and grants from private foundations and **corporations** and are used in support of the Festival of American Folklife (estimated expenses of \$15,000 in FY 1980 and in FY 1981).

Federal Grants and Contracts - In the past, funds have been received from various federal agencies for support of exhibitions and performances at the annual Festival of American Folklife. For the 1980 and 1981 annual Festival, funds are anticipated from the Department of Energy for a continuing exhibition project on folkstyle housing; this results from that Department's special interest in older houses which are energy efficient (anticipated expenditures of \$80,000 in FY 1980 and in FY 1981). In FY 1981, additional funding of \$40,000 from the Department of Agriculture is anticipated for the same housing project.

INTERNATIONAL ENVIRONMENTAL SCIENCE PROGRAM

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	2	382	--	--	--	--	--	--	--	--
FY 1980 Estimate	2	408	--	--	--	--	--	--	--	--
FY 1981 Estimate	2	524	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	2	0	2
Number of Other Positions.....	9	0	9
11 Personnel Compensation.....	153	3	156
12 Personnel Benefits.....	13		13
21 Travel & Trans. of Persons....	34	1	35
22 Transportation of Things.....	6		6
23 Rent, Comm. & Utilities.....	1		1
25 Other Services.....	153		153
26 Supplies and Materials.....	31	12	43
31 Equipment.....	17	100	117
TOTAL	408	116	524

Analysis of Increase

Necessary Pay.....	3
Inflation.....	13
Program Funds.....	100

ABSTRACT - The International Environmental Science Program (IESP) coordinates the special capabilities of the Smithsonian's science bureaus to study ecosystems subject to human disturbance in order to evaluate and ultimately predict the consequences of these human activities. The International Environmental Science Program was established as a multi-bureau interdisciplinary effort to monitor ecosystems at two permanent Smithsonian research facilities (the Tropical Research Institute in Panama and the Chesapeake Bay Center for Environmental Studies in Maryland) and at several non-permanent sites in the tropics and subtropics. For FY 1981, an increase of \$100,000 is requested to update and improve the Program's automatic data processing. Necessary pay in the amount of \$3,000 is required for existing staff and funds of \$13,000 are requested to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Smithsonian has engaged in environmental research abroad for many years

because of its expertise in international environmental research and its capability to sustain scientific programs on a long-term basis. The Program has developed successfully a team-oriented approach to research in order to maximize the use of available resources. Recently increased national attention has been focused on the need to establish additional sites for long-term ecological monitoring, such as those which the Smithsonian Institution has operated through the International Environmental Science Program at the Chesapeake Bay Center for Environmental Studies (CBCES) in Maryland and the Smithsonian Tropical Research Institute (STRI) in Panama. Studies by both the Council on Environmental Quality and the National Academy of Sciences have called for additional monitoring programs in the tropic and temperate zones to further fundamental knowledge of these environments. Personnel from the International Environmental Science Program as well as the data generated from the Program have been and will be of use to policymakers and scientists in establishing these new programs. The accumulation of seven years of data will serve to complement and avoid duplication of effort as these new monitoring systems are developed.

Staff resources consist of specialists from the Smithsonian's science bureaus and occasionally scientists from other institutions. These scientists measure the two major stresses on the ecosystems being studied; those from meteorological factors and those from activities directly induced by humans. Examples of meteorological stresses include light quality and variations in temperature, moisture, wind and tides. Examples of stress induced by humans include the effects of land runoff application, fertilization, and land clearing.

Intensive work has been undertaken at several non-permanent tropical locations aimed at understanding species' diversity. Studies in Nepal on the tiger and its prey have yielded significant information on these species' activities which will aid park planners in Nepal and elsewhere in the management of biological reserves to ensure species survival. In Venezuela, research on natural populations of rodents adjacent to newly developed farm land yielded results which assisted farmers in completely revising their control techniques for these publications. At the Program's permanent site on Barro Colorado Island in the Republic of Panama, studies are indicating that the tropics are not, as commonly thought, an area of constant high productivity. Rather there is a great seasonality in the growth of flowers and crops. These results have great importance to the population levels of animals in the tropics and the abundance of animals harvested for subsistence by indigenous populations. At the Program's other permanent site on the Rhode River, studies are aimed at distinguishing natural fluctuations in biological communities from those brought about by man's activities. A recent finding of International Environmental Science Program investigators was that annual fluctuations in the abundance of two commercially important species of fish, white and yellow perch, appear to be associated with the timing and size of spring floods, rather than with pollution factors or the amount of fish harvested in previous years.

Publications resulting from this program include a monograph on the behavior and social dynamics of the tiger, a major book on the neotropical mammals of Venezuela, and a volume summarizing the state of knowledge on the Amazon region. A major publication will be completed this year summarizing the tropical research work of the Environmental Science Program since its inception. A major volume summarizing the Program's results on chemical and physical parameters from the temperate site also is scheduled to be completed this year.

In late FY 1978, a review of the International Environmental Science Program at the Panama and Chesapeake Bay sites was conducted by a committee of distinguished outside scientists familiar with long-term ecological monitoring. Their report, issued in FY 1979, recommended that a detailed plan be developed for the next five-year phase of the program. This five-year plan calls for the uniform collection of data on such environmental phenomena as rainfall, temperature, sunlight and land run-off, on such biological activities as seasonal growth of plants, year-to-year changes in insect activity, etc. The review committee strongly recommended that the Program at both study sites take the necessary steps to upgrade existing equipment and provide for new, modern systems for data acquisition and processing.

EXPLANATION OF PROGRAM INCREASE - An increase of \$100,000 is requested to obtain and improve data analysis and storage capabilities at the two permanent environmental research sites of the International Environmental Science Program: the Chesapeake Bay Center for Environmental Studies (CBCES) in Maryland and the Smithsonian Tropical Research Institute (STRI) in Panama.

Funds are requested to upgrade the simple calculator units now being used at the two sites, in order to increase the Program's data processing efficiency and reduce the current backlog of data. In addition, this new system will increase the efficiency of acquiring data directly from monitoring instruments in the field. Investigators working in the International Environmental Science Program have, in recent years, focused their efforts on the intensive measurement of changes in meteorological conditions and other environmental factors which influence plant and animal communities. As a result, the amount of data that must be collected to measure such changes accurately has substantially increased. At the CBCES site, for example, the number of individual measurements collected annually has risen from 700,000 to over 3,000,000 in the past four years. A similar expansion has occurred at the Panama site. This expansion has led to a severe data processing backlog. Currently a two to three year lag exists between the time field measurements are taken to the point at which they are analyzed and prepared for publication. The proposed system will permit the researchers to convert data from notebooks, punched paper tape, and magnetic cassettes to a form more readily utilized by a computer. This system will allow the researchers to edit and verify data before transmission, insuring the quality of the stored data base. It will permit on-line data acquisition from such equipment and instruments to various experimental sites at the Bay Center. This type of data acquisition will eliminate human error normally found in key punched and other transcription methods because the system increases the efficiency with which data may be transmitted to the Mall. The remotely located researcher will be able to gather and handle more data with very little increase in effort.

The equipment requested is for each site and includes: (1) two visual display units with a keyboard and memory (\$36,000) to enable the scientists to determine the accuracy of their data before transmission to the central computer; (2) two discs for data acquisition and transmission (\$38,000) to provide for rapid field acquisition and transmission of data; and (3) two additional entry channels, communication lines and data printers (\$26,000) to allow simultaneous use of the unit by a number of scientists to perform statistical analyses of their own data and to interact quickly with central computers.

This upgraded system will be installed at each site to insure comparability in the collection, processing and analysis of the data. It is expected that installation of this new data system at both sites will reduce the time involved for data acquisition and processing from the current two years or more to under six months.

In addition to the problems created by large increases in the volume of data required to be processed, special conditions also exist at the two field sites which affect the acquisition and processing of the data. In Panama, computer services of any kind are limited and the remoteness of the Program's widely scattered five research areas makes it necessary that a system be available for directly acquiring data in the field. To meet these special needs, an efficient data system would have these characteristics: sites connected to central facility; availability of data to researchers for entering, retrieving, and running analyses; flexibility in connecting various scientific equipment to a computer; facilities for storage and retrieval of data; and expandability of processing and storage capacity. The Chesapeake Bay Center, although not as remotely located, does have extensive and widely dispersed field locations which require the availability of on-site acquisition systems.

The enhancement of the Program's automatic data processing system will allow for more rapid use of the data by policy-makers and by scientists engaged in similar monitoring programs throughout the world.

ACADEMIC AND EDUCATIONAL PROGRAMS

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING								FEDERAL GRANTS & CONTRACTS	
			UNRESTRICTED				RESTRICTED					
			General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount		
FY 1979 Actual	19	451	2	92	--	176	--	26	--	--		
FY 1980 Estimate	19	501	2	124	--	796	--	28	--	--		
FY 1981 Estimate	20	568	2	135	--	802	--	58	--	--		

*FTP = Full-time permanent positions

Detail of Federal Funding

	<u>Base FY 1980</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1981</u>
Number of Permanent Positions....	19	1	20
Number of Other Positions.....	1	1	2
11 Personnel Compensation.....	389	37	426
12 Personnel Benefits.....	36	5	41
21 Travel & Trans. of Persons....	11	3	14
23 Rent, Comm. & Utilities.....	5	1	6
24 Printing and Reproduction.....	49	8	57
25 Other Services.....	4	7	11
26 Supplies and Materials.....	6	3	9
31 Equipment.....	1	3	4
 TOTAL	<u>501</u>	<u>67</u>	<u>568</u>

Analysis of Increase

Necessary Pay.....	7
Inflation.....	6
Program Funds.....	54

ABSTRACT - Research and education are among the principal objectives and responsibilities of the Smithsonian. In order to foster and stimulate the pursuit and dissemination of knowledge, the Institution has promoted scholarly and academic ties with other learned institutions since its establishment, and has offered its resources for learning--its collections, professional staff, libraries and laboratories--to the general public and to the academic community. These ties are developed and maintained through competitive awards for research projects, in higher education, symposia and seminars, and activities at the elementary and secondary levels.

For FY 1981, an increase of one position and \$54,000 is requested for the Office of Elementary and Secondary Education to continue to develop activities to make Smithsonian education programs and special events accessible and available to handicapped visitors. Necessary pay in the amount of \$7,000 is required for existing staff and an amount of \$6,000 is sought

to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - I. Office of Fellowships and Grants: The Office of Fellowships and Grants manages Smithsonian fellowships and related academic programs, and administers the Special Foreign Currency Program which provides grants to American institutions, including the Smithsonian itself, for research in "excess" foreign currency countries. Resources for administration of these programs are included here, as are costs of Institutional fellowships. Estimates for costs of the Special Foreign Currency Program are presented in the separate request for that appropriation.

II. Academic Programs: The National Collections in the Smithsonian's care, and the scholars who curate and study them, together offer unparalleled resources for specialized study in many disciplines, resources not duplicated at any university and essential to many scholars research efforts. University education rests on the study of manuscript or printed material, and reproductions of artifacts. At the Smithsonian, historical and anthropological objects, original works of art, natural history specimens, living animals and plants, and ecological systems are directly available for study. Thus, the Smithsonian provides an important complement to university education.

The Institution opens its resources to students and scholars throughout the country, and profits from interchange with them. Residential fellowships are awarded throughout the Institution with nonappropriated Trust funds, enabling fellows to work in all research areas of the Institution and pursue interdisciplinary projects drawing upon several bureaus; they provide access to the full range of Smithsonian resources. From time to time, additional fellowships are offered through nonappropriated Trust funds or appropriated funds designated for the bureaus, providing research and training opportunities closely tied to current bureau program and priorities. The Office of Fellowships and Grants manages all fellowships.

Predocctoral and postdoctoral fellowships support scholars receiving advanced research training under the guidance of senior Smithsonian staff members. Fellows are in residence as guests in one or more bureaus using facilities and collections, receiving scholarly and technical help in their research, and participating in the intellectual life of the Institution. Awards follow vigorous competition among several hundred candidates and evaluation by outside referees and by Smithsonian senior professional staff members. Successful applicants are among the most promising scholars in their field. In FY 1979, 75 awards were made to fellows from 45 schools. Since 1965, 775 awards have been made to fellows from 182 schools.

In addition to the fellowships for students and younger scholars, a few fellowships are offered at the senior level for distinguished scholars and scientists of proven accomplishment. The new Regents' Fellowship, inaugurated in 1980 and supported with the Institution's nonappropriated Trust funds, is currently sponsoring the residence of three scientists of international renown. Working in diverse subjects-mathematical astrophysics, sociobiology and Southwestern U.S. archeology, the Regents' Fellows will be in residence at Smithsonian facilities and collaborate extensively with staff members, predocctoral and postdoctoral fellows and other visitors. Their stay at the Smithsonian is in each case expected to contribute significantly to major publications they are preparing.

As a further means of opening study and training opportunities to visitors, academic internships for undergraduate and beginning graduate students are offered to permit practical experience in areas related to their formal course of studies. Each year one hundred students work with curators on relevant projects while receiving academic credit at their home institutions.

III. Office of Symposia and Seminars: The Office of Symposia and Seminars designs programs for interdisciplinary approaches to knowledge and the understanding of the implications of that knowledge by both the academic community and the wider public. Planning is now underway for the Institution's seventh international symposium in 1981, an exploration into human biological and cultural adaptation. "How Humans Adapt: A Biocultural Odyssey" will follow in the series that has produced six major symposia and a variety of important

published materials. Continuing also will be the "Voluntarism and the Public Interest in American Society" seminar series (entering its eighth year in 1981). Special seminars are planned to emphasize the integrations of technology, art and culture as influences on society. One of these seminars, "Citizenship Education for the Information Age," will be a ten-year investigation of the broad implications of the communication and information revolution where technologically advanced systems will replace the traditional forms of ideas exchange. Since the 1980s will end with the bicentennial of the U.S. Constitution, this seminar series will attempt to assess and analyze the impact of these changes on citizen education. As part of the observance of the International Year of the Child (IYC), the Institution cooperated in producing a Mall program entitled "Play and Inventiveness." In FY 1981, Symposia and Seminars plans to release a film produced by the Harvard Film Study Center based on that program and publish a book drawn from the Smithsonian's activities during the IYC. A special seminar, dealing with the teaching of history and art, is being designed at the request of the University of Hawaii for graduate level students. The University's College of Education will build this seminar into its standard curriculum if this prototype is successful.

IV. Office of Elementary and Secondary Education: A major objective of the Office of Elementary and Secondary Education (OESE) is to make Smithsonian resources for learning available to both the local and national school communities. Program activities include planning and conducting teaching workshops, developing audiovisual materials, preparing school publications, conducting a summer program for high school students, and coordinating the Smithsonian's educational activities for the handicapped.

To encourage cooperation and exchange of information among the Smithsonian education offices and between those offices and local schools, the Office continues to offer a number of programs. Two publications--Let's Go (a monthly newsletter) and Learning Opportunities for Schools (an annual brochure)--are used to inform teachers about the variety of Smithsonian services and suggest ways of using museums as educational resources. During FY 1979, a teacher workshop and seminar program now in its ninth year, attracted more than 3,000 teachers to eighty programs including seven summer courses enabling the development of curriculum units based on Smithsonian resources. Summer workshops include an orientation program to museum resources for secondary school teachers entitled "A Mixed Bag"; several one-week seminars on museum teaching methods; and two three-week courses featuring programs on "Developing Writing Skills Using Museum Resources" and "Discover the 19th Century through Smithsonian Collections."

To share these same teaching concepts with a national teacher audience, Art to Zoo, a classroom newspaper, continues during FY 1980 to be distributed to over 14,000 schools and 55,000 teachers throughout the United States. For the school year 1979-80 Art to Zoo has been expanded to include "The Pull Out Page" designed for young readers. In conjunction with Art to Zoo, two new additional projects have been developed. Staff members from OESE and the National Portrait Gallery have produced a slide package entitled "The Museum Idea," showing teachers how to create a museum in the school classroom. In cooperation with the MNH's Department of Anthropology, OESE is developing a media kit for high school students drawing on the extensive personal and professional papers and collections of 19th century naturalist, Dr. Edward Nelson. During the summer of 1980, OESE will sponsor the first in a series of courses for a national audience of classroom teachers. Two courses will be held in the summer of 1980.

In FY 1979, a summer intern program brought twenty-eight high school students to the Smithsonian to engage in learning and service projects with members of the professional staff. This program was funded through the nonappropriated Trust-funded Educational Outreach Program, and will continue in FY 1980. For FY 1981, extensive program adaptations are planned to allow for accessibility and participation by handicapped visitors.

EXPLANATION OF PROGRAM INCREASE - Office of Elementary and Secondary Education - Beginning in FY 1979, this office initiated a program to make Smithsonian museums more accessible to the handicapped. The program began with a means to provide interpretation

for the deaf at many Smithsonian functions. In FY 1980, plans are to expand this service to include selected training of guards and information desk volunteers in sign language and to hold classes to teach an awareness of the needs of the handicapped. For FY 1981, one position for a full-time program coordinator, a part-time assistant, and \$34,000 are requested. The program coordinator will formulate plans to support the continued development of activities to make Smithsonian educational programs and special events accessible to handicapped visitors. Current activities have been developed based on specific requests of the Institution by handicapped individuals who wish to avail themselves of the learning opportunities at the Smithsonian. The new program coordinator would be concerned with more comprehensive planning of these activities, and would expand the program to furnish sign and oral interpreters; training volunteers, docents and staff in a basic understanding of sign language; develop programs for mentally retarded visitors; and prepare publications to advise handicapped visitors of the availability of these programs. An additional amount of \$20,000 is sought for publication costs and for the purchase of necessary supplies and services.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose - These funds are provided from allotments which are primarily designated for the Institution's fellowship program (approximately \$600,000 of anticipated expenditures in FY 1980 and FY 1981). Smithsonian fellowships serve the national academic community as well as the Smithsonian's own research staff and are an important part of the Institution's endeavors. Fellows provide intellectual stimulus to the work of Smithsonian curators and scientists, by offering new ideas and conveying the latest developments in their fields. Intellectual exchange continues beyond the fellowship year, through lasting collaborations, correspondence, visits and joint publications. The Institution's staff members enthusiastically support the program, spending substantial time and effort to ensure its success. More than three-quarters of the staff wish to work regularly with visiting fellows and are active each year in selecting them.

The Smithsonian experience with fellows in residence has been extremely positive, and the later performance of these fellows as professionals in teaching, research, and public service positions has been outstanding. Follow-up surveys indicate that past fellows are found to publish extensively. Most of them teach in academic institutions, although many follow careers in research, government, and industry. Other funds in this category include \$100,000 projected for FY 1980 and FY 1981 to be used to support the Regents' Fellowship Program for distinguished visiting scholars. This Program was initiated in FY 1980. In FY 1979, funds have been provided through the Institution's Collections Acquisitions, Research and Education Program to the Office of Elementary and Secondary Education to develop central coordination for programs for the handicapped (\$27,000); and to support the high school intern program (\$19,000). The Office of Smithsonian Symposia and Seminars also has received funds in FY 1979 from the Collections Acquisitions, Research and Education Program. These funds have been used to supplement the program costs of a colloquium (\$17,000) celebrating the Einstein Centennial entitled "The Joys of Research." Expenditures under the Collections Acquisitions, Research and Education Program have been recorded for FY 1979, but not yet for FY 1980. This explains the variance in the totals shown between FY 1979 and FY 1980 and FY 1981. These offices can, however, expect to receive and spend funds made available through this Program in FY 1980 and FY 1981.

Restricted Funds - Funds provided here are in the form of restricted endowments, gifts and foundation grants which specify the use of the donation or bequest. Funds come from individuals, organizations or corporations and are designated for the support of a particular project. For example, the Walter Rathbone Bacon Scholarship Endowment, provided to the Office of Fellowships and Grants, is used to support fellowships in zoological research (estimated expenditures of \$8,000 in FY 1980 and in FY 1981); gifts from the Ellis Phillips Foundation are provided to the Office of Symposia and Seminars for the Smithsonian's Seventh International Symposium on "How Humans Adapt," scheduled for November 1981 (estimated expenditures of \$8,000 in FY 1980 and \$45,000 in FY 1981); and corporate contributions are supporting the Einstein Centennial publications entitled The Joys of Research scheduled for publication in the first quarter of FY 1981 (estimated expenditures of \$7,000 in FY 1980).

COLLECTIONS MANAGEMENT/INVENTORY PROGRAM

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	--	482	--	--	--	--	--	--	--	--
FY 1980 Estimate	--	546	--	--	--	--	--	--	--	--
FY 1981 Estimate	--	562	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	0	0	0
Number of Other Positions.....	20	0	20
11 Personnel Compensation.....	398	1	399
12 Personnel Benefits.....	29		29
21 Travel & Trans. of Persons....	3		3
22 Transportation of Things.....	1		1
23 Rent, Comm. & Utilities.....	49	6	55
24 Printing and Reproduction....	4	1	5
25 Other Services.....	43	5	48
26 Supplies and Materials.....	16	2	18
31 Equipment.....	3	1	4
TOTAL	546	16	562

Analysis of Increase

Necessary Pay.....	1
Inflation.....	15
Program Funds.....	0

ABSTRACT - In September 1978, the Institution developed a plan for scheduling and performing inventories of its collections. The successful implementation of this plan continues to be a high Institutional priority. In FY 1979, a special appropriation of \$500,000 was made to the Institution to accelerate this process. These funds were applied to major inventory projects in the following three museums where the need for additional effort was of the greatest urgency: (1) the National Museum of Natural History (NMNH); (2) the National Museum of History and Technology (NMHT), both of which will move some of their collections to the Museum Support Center starting in 1982; and (3) the Cooper-Hewitt Museum, whose collections had not been inventoried fully prior to the Museum's transfer to the Smithsonian. In FY 1980, a second appropriation of \$500,000 was made to continue this program. These funds are being used to continue the inventory efforts at these three museums; to computerize the inventory of the "Smithsonian Art Index" at the National Collection of

Fine Arts; and to provide additional data processing capability to cope with the vast amount of inventory information gathered by the inventory projects. These special appropriations have made it possible for the Institution to develop inventory techniques and methods of recording inventory data that will be applied to future inventory and collections management efforts. No program increase is sought in FY 1981. An amount of \$1,000 is required for necessary pay for staff and funds of \$15,000 are requested to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Institution has established that a complete inventory of its collections is a major priority and an essential part of its collections management program. The specific inventory plans prepared by each museum, including time tables, information requirements and procedures, are based upon the nature and size of its collections. Inventory projects initiated at the National Museum of Natural History, the National Museum of History and Technology and the Cooper-Hewitt Museum in FY 1979 are actively continuing in FY 1980. In each of these museums, inventory standards and methods, including data gathering and recording systems and collection condition reports, have been developed and teams of temporary or part-time employees have been hired to assist regular staff with the inventory process. More than 80 such temporary or part-time employees have been involved in this process at various times. By the end of FY 1979, the National Museum of Natural History had created and computerized more than 425,000 inventory records, 60 percent of which were of the Department of Anthropology and the rest distributed throughout seven other departments. The National Museum of History and Technology had inventoried and created inventory records for 114,000 objects and the Cooper-Hewitt Museum did the same for 55,000 objects. The special appropriation has permitted several innovative pilot inventory projects to be undertaken which have led to improved efficiency in the entire process.

For FY 1980, nearly all of the special inventory appropriation has been allocated to the National Museum of Natural History, the National Museum of History and Technology and the Cooper-Hewitt Museum. Allocations for FY 1981 are expected to be distributed similarly.

At NMNH, a total of \$795,000 is designated in FY 1980 for collections inventory work, of which \$559,000 is from the Museum's base funds and \$236,000 from the Collections Management/Inventory Program funds. In FY 1981, the Museum plans to use \$809,000 for collections management inventory work, of which \$559,000 is again from the Museum's base funds and an estimated \$250,000 from the Collections Management/Inventory Program funds. NMNH is assigning first priority to the collections that will be moved to the Museum Support Center (MSC) and to collections of highly valuable items and/or unusually important objects, such as types and specimens of endangered species. Over three million records will be created to cover these collections. The largest of these projects is the inventory of the ethnology/archeology collection for which the shelf inventory will be completed in FY 1980. The records check will be completed in FY 1981. This collection is highly valuable and will be moved to the Museum Support Center. Other collections being inventoried prior to being moved to the Museum Support Center include the algae; plants, to be curated and identified; certain groups of insects and other invertebrates; rocks and ores; stratigraphic suites of fossils; eggs and nests; bird skins; tanks of fish; large reptiles and amphibians; post-cranial skeletons of mammals; and the collections of the Smithsonian Oceanographic Sorting Center. These inventory projects are on schedule. Other collections being inventoried because of their high value or unusual importance include the Burgess Shale fossils, human skeletons, fossil fish, valuable mollusks, insect types, primates, and the anthropological archives.

NMNH also is continuing with inventory projects that began prior to the special Collections Management/Inventory appropriation. These include type specimens of plants; a major group of beetles; the medically important tick collection; certain groups of invertebrate animals; valuable minerals and gems; important groups of fossils including types and families of mammals; and the U.S. portion of the reptile and amphibian collection.

At NMHT, a total of \$487,000 is designated in FY 1980 for collections inventory work, of which \$331,000 is from the Museum's base funds and \$156,000 is an allocation from the

Collections Management/Inventory Program funds. For FY 1981, the Museum plans to use \$538,000 for collections management inventory work of which \$331,000 is again from the Museum's base funds, an estimated \$170,000 from the Collections Management/Inventory Program funds, and an additional \$37,000 proposed as an increase to the Museum's base funds. Collections in the Transportation, Musical Instruments, Physical Sciences, Nuclear Energy and Mechanical and Civil Engineering Divisions have been completed. In FY 1980, funds will be used to further inventory efforts in the Division of Medical Sciences, Graphic Arts, Textiles, Domestic Life and Electricity. The Textile and Domestic Life inventories will be completed this year and Community Life and Postal History inventories are scheduled to begin. Other inventory projects are underway in the Extractive Industries, Costumes, Ceramics, Military and Naval History and Numismatics Divisions. Inventory work is scheduled to begin this year in the Divisions of Photographic History and Political History.

In FY 1981, NMHT's work will focus on the collections at Silver Hill for those divisions whose Mall collections are completed or well underway. Work will continue in the Numismatic, Postal History, Military History, Photographic History, Medical Sciences, and Community Life Divisions and inventories will be started in the Mathematics and Mechanisms Divisions.

The Cooper-Hewitt Museum anticipates using amounts of \$100,000 in FY 1980 and again in FY 1981 for inventory work, consisting each year of base funds of \$50,000 and an allocation of \$50,000 from the Collections Management/Inventory Program funds. At the Cooper-Hewitt Museum, inventories of the collections of ceramics, glass and paintings were completed and the inventory of drawings was begun in FY 1979. Work on the drawings collection will continue in FY 1980 and a start will be made on the textile and wallpaper collections. Work on the furniture and other parts of the decorative arts collections also will continue in FY 1980.

Beginning in FY 1980, and continuing in FY 1981 and beyond, the "Smithsonian Art Index" project at the National Collection of Fine Arts (NCFA) will be expedited and computerized. Under this project, since 1976, a part-time researcher at NCFA has been accumulating information, in manual form, on the art held by the National Air and Space Museum, the National Museum of History and Technology, the National Zoological Park, and the Smithsonian Institution Building. NCFA has devoted an average of \$12,500 of its base funds to the project since 1976. With supplementary resources of \$12,000 from the Collections Management/Inventory Program funds in FY 1980 and again in FY 1981, the information that has been collected to date and that is continuing to be collected will be prepared for entrance into a computer data bank. The "Smithsonian Art Index," when completed, will serve as an invaluable cross reference with other inventory records. It also will provide scholars and researchers with ready access to information on all of the Institution's art holdings.

The balance of the Collections Management/Inventory appropriation, \$46,000, in FY 1980, is designated mainly for the Office of Computer Services (OCS) for expansion of computer capabilities. Of the amount of \$45,300 assigned to OCS, \$36,300 is required to lease additional computer communications connections for terminals in order to accept the great quantity of data being produced and \$9,000 is needed to acquire a supply of tapes on which to record this data. Funds of \$700 have been provided in FY 1980 to the Office of the Registrar to be used for travel to the Cooper-Hewitt Museum in New York City for periodic advisory meetings.

All proposals for specific inventory projects will be reviewed by the assistant secretary involved to assure that those projects receiving allotments are the most critical and urgent in light of the progress made at the time of submission. The amount of funds to be allotted to inventory support units such as OCS will be determined at that time. Since the diverse nature of the collections demands that different techniques and processes be used by each bureau, assignment of object class expenditures may be modified after specific projects have been given final approval.

The following tables summarize the allocation of the Collections Management/Inventory Program funds in FY 1980 and show the bureau funds that also are being applied to this work.

SMITHSONIAN INSTITUTION
COLLECTIONS MANAGEMENT/INVENTORY PROGRAM

(Dollars in thousands)

	<u>Natural History</u>	<u>History & Technology</u>	<u>Cooper- Hewitt</u>	<u>Other</u> ^{/1}	<u>Total</u>
FY 1980 Base Resources	559	331	50	--	940
FY 1980 Portion of \$500,000 ^{/2}	<u>236</u>	<u>156</u>	<u>50</u>	<u>58</u> ⁴	<u>500</u>
TOTAL FY 1980	<u>795</u>	<u>487</u>	<u>100</u>	<u>58</u>	<u>1,440</u>
FY 1981 Base Resources	559	331	50	--	940
FY 1981 Proposed Increase	--	37	--	--	37
FY 1981 Est. Portion of \$500,000 ^{/2} ^{/3}	<u>250</u>	<u>170</u>	<u>50</u>	<u>30</u>	<u>500</u>
TOTAL FY 1981 (Est.)	<u>809</u>	<u>538</u>	<u>100</u>	<u>30</u>	<u>1,477</u>

/1 In FY 1980, this amount has been allocated to other bureaus and offices as follows: Office of Computer Services, \$45,300; Office of the Registrar, \$700; National Collection of Fine Arts, \$12,000. Following review of inventory progress made during FY 1980, the FY 1981 amount will be applied to additional inventory and support projects that are identified as urgent.

/2 An additional amount of \$46,000 is being sought in FY 1980 as part of the Institution's pay supplemental request. The funds tentatively would be distributed as follows in FY 1980 and FY 1981: National Museum of Natural History, \$32,000; National Museum of History and Technology, \$5,000; Cooper-Hewitt Museum, \$7,000; Other, \$2,000.

/3 An additional amount of \$16,000 is sought in FY 1981 for the annualized portion of the FY 1980 pay supplemental request (\$1,000) and for inflation in nonsalary areas of expense (\$15,000). These funds tentatively would be applied as follows: National Museum of Natural History, \$5,000; National Museum of History and Technology, \$4,000; Cooper-Hewitt Museum, \$1,000; and Other, \$6,000. These proposed additional funds are shown separately in order not to distort the original appropriation of \$500,000.

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MAJOR EXHIBITION PROGRAM

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	--	--	--	--	--	--	--	--	--	--
FY 1980 Estimate	--	--	--	--	--	--	--	--	--	--
FY 1981 Estimate	--	1,000	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	<u>Base FY 1980</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1981</u>
Number of Permanent Positions....	0	0	0
Number of Other Positions.....	0	13	13
11 Personnel Compensation.....		114	114
12 Personnel Benefits.....		11	11
21 Travel & Trans. of Persons....		5	5
22 Transportation of Things.....		25	25
24 Printing and Reproduction....		73	73
25 Other Services.....		413	413
26 Supplies and Materials.....		265	265
31 Equipment.....		94	94
TOTAL	<u>0</u>	<u>1,000</u>	<u>1,000</u>

Analysis of Increase

Necessary Pay.....	0
Inflation.....	0
Program Funds.....	1,000

ABSTRACT - This new line-item in the Smithsonian's budget reinstitutes centralized support for major history and art exhibitions which can not be funded within the base resources of an individual museum. For FY 1981, two such exhibitions are proposed: on the 250th anniversary of his birth, the first major George Washington retrospective held anywhere in the world during this century--to be presented and interrelated with existing exhibitions at the National Museum of History and Technology (NMHT); and a year-long display, augmented by live demonstrations, of the Institution's best folklife objects drawn from all Smithsonian museums and occupying all exhibit halls at the Renwick Gallery. For these purposes, a total of \$1,000,000 is sought for FY 1981.

PROGRAM - As early as 1970, the Institution recognized the need for special funds to replace large semi-permanent exhibitions, which had become outdated, with new major exhibitions of particular interest and timeliness. Accordingly, new line items on the Smithsonian's Federal budget entitled "Major Exhibition" and "Bicentennial Programs" were established and

generously funded by the Congress to permit necessary planning, coordinated research and collecting, and exhibit production employing the most advanced techniques of display. Many of the exhibitions produced under these two programs, funded at \$8,257,000 over the five-year period FY 1971 - FY 1976, are still on view. They include among others, "We the People" and "A Nation of Nations" in the National Museum of History and Technology; "Benefits from Flight" in the National Air and Space Museum; "The Federal City: Plans and Realities" in the Smithsonian Building; and "1876 - A Centennial Exhibition" in the Arts and Industries Building. Following the Bicentennial, the Institution elected to focus attention and resources on needed collections management efforts which had been under-emphasized during the intensive, exhibition-oriented Bicentennial period. As a result, these two exhibitions programs were phased out and their funding was redirected to other programs upon rejustification to the Congress. It has now become evident, however, especially in the National Museum of History and Technology, that a new and continuing program of special funding to revitalize Smithsonian exhibitions is urgently needed.

In history and art museums alone, there are approximately 806,000 square feet (over 18-1/2 acres) of exhibition space. According to available records, recent nonsalary costs for installing Smithsonian exhibitions range from \$30.00 to over \$75.00 per square foot. For example, "A Nation of Nations," which occupies 35,000 square feet, which contains more than 3,000 objects and is an unusually complex installation, cost \$78.00 per square foot. "The Federal City: Plans and Realities" occupies 6,100 square feet and contains 250 objects. A much smaller exhibition with a simpler installation, its costs per square foot were approximately \$40.00.

Non-Smithsonian museums experience similar costs. The "Treasures of Tutankhamen," for example, involved only 55 objects, yet six museums shared basic costs of \$750,000 for assembling and shipping that exhibition. In addition, each participating museum paid its own installation, handling, and security costs. The Metropolitan Museum of Art in New York spent \$250,000, and the Field Museum of Natural History in Chicago spent \$340,000. The exhibition required approximately 17,000 square feet of exhibition space. If each of the museums had mounted it independently, the square foot costs would have been \$59.00 and \$64.00 respectively. As another example, the exhibition costs of the show, "The Art of the Pacific Islands," at the National Gallery of Art, were budgeted at \$990,000. It contained about 400 objects and occupied approximately 17,000 square feet, at a per foot cost of \$58.00.

If one were to take an average cost of \$50.00 per square foot and redo all history and art exhibitions at the Smithsonian, the total cost would be a staggering \$40 million. By contrast, the total nonsalary exhibit funds available in history and art base budgets total just over \$1,000,000.

Among the Institution's history and art museums, the National Museum of History and Technology alone accounts for nearly 8-1/2 acres of public exhibition space. By 1971, following its opening in 1964, virtually all of this space had been filled with displays of one sort or another. Since 1971, however, less than 30 percent of this space has been upgraded by the installation of subsequent exhibitions. In other words, as we enter the decade of the 1980s, over two-thirds of the public displays at the Institution's principal museum of American history continue to date from the 1960s. Nonsalary funds available in the NMHT's base budget for exhibition purposes total approximately \$225,000. Without additional funding, at \$50.00 per square foot, it would take until the year 2037 to redo these already dated displays. This is clearly unacceptable.

One remedy the Institution has sought to employ, with occasional success, is private fundraising. Recent notable successes include the "Hall of American Maritime Enterprises" and the forthcoming "Clockwork Universe" exhibition. For these two NMHT shows alone, more than \$1.2 million was raised from outside sources. The uncertainty of such financing, however, defeats necessary long-range planning for exhibits development and holds any program of comprehensive upgrading to the unpredictable tastes of the marketplace. This also is clearly unacceptable.

In short, the Institution's history and art museums, especially the National Museum of History and Technology, have a critical need for a long-term program which can selectively augment their available base funding in order to produce large new exhibitions. The Major Exhibition Program proposed here will fill this need. Administered centrally by the Assistant Secretary for History and Art, annual funds will be justified to the Congress for specific exhibitions--usually two per year, one at the NMHT and another which will call into play the cooperative forces of two or more Smithsonian museums in joint venture. So structured, the program will avoid permanent base increases to any museum's budget, retaining flexibility for varying allocations based on merit and need, and provide for direct and continuing Congressional oversight.

EXPLANATION OF PROGRAM INCREASE - The NMHT plans over the next ten years a major overhaul of its public spaces arising from a reconsideration of its responsibilities to the public and to its rich and multi-faceted collections. A more rational arrangement of public space is intended, with new orientation areas and greater clarity of presentation of the relationship of portions of its collections to each other. Four million visitors who attend the Museum each year will find new collections and new exhibitions installed in a way that will enable more frequent display of items now in storage, as well as timely small exhibits, which will permit fresh perceptions of the meaning of the past for the present.

The results of this multi-year effort will be both greater clarity of the overall public area of the Museum as well as the more dynamic circulation of objects within the exhibitions themselves. This work will relate to ongoing inventory, conservation, and publications programs intended to make the collections more accessible to scholars and public alike. Greater opportunities for display of the holdings will stimulate the curatorial staff, as well as encourage the Museum to take advantage of the extensive outreach programs of the Smithsonian (SITES, Smithsonian Press and Radio, Smithsonian Associates, etc.)

George Washington - The 250th Anniversary of George Washington's birth in 1982 presents a unique opportunity to launch this multi-year task. No other institution has the range of collections capable of documenting Washington's life and times and the political and socio-economic forces which were undergoing sharp changes of pace and complexity during his lifetime. A major exhibition (surprisingly the first in modern times to focus on Washington, the world he knew and how it differs from our own) is intended to go beyond the widely known facts about his world--and the myths about him--and to concentrate on his origins and his personality as they affected the requirements of an emerging American nation. The NMHT will cooperate with other Smithsonian bureaus as well as with Mount Vernon and other repositories of memorabilia of Washington and his contemporaries. The catalogue of this exhibition will combine the contributions of curators from many disciplines (from ceramics to large machines, from agriculture to graphics) and consulting scholars. Symposia and other public events connected with the exhibition will engage experts from various disciplines in order to focus on the first President's life and times. The Institution envisages the publication of at least one major book in addition to the catalogue. A whole new generation of Washington monographs, as well as educational materials (filmstrips, teaching aids, self-guiding tour leaflets) and traveling exhibitions will be developed.

This undertaking will occupy at least one fourth of the main floor (Mall level) of the Museum and will stimulate the upgrading and cross-referencing of adjacent exhibition areas which, in some cases, have been static since the building opened in 1964. Funds of \$638,000 are required for the main exhibition. Of this amount, approximately \$80,000 is needed for removal of existing exhibit materials and demolition of interior walls; \$225,000 is required for subsequent construction; \$67,000 for nine temporary installation technicians; \$30,000 for the transportation and insurance of borrowed objects; \$50,000 for catalogue and brochure publication; and \$186,000 for supplies and materials. To complement these funds, the Museum's staff resources will be committed to the design, customized case fabrication and the installation of objects.

Folklife Exhibition - "Celebration," an integrated display of folk and traditional objects from Smithsonian collections, will be the largest exhibition ever organized for the Renwick Gallery, and will occupy the entire building in two phases from August 1981 until August 1982. Between 500 and 700 objects, all drawn from Smithsonian museums and representing many world

cultures, will be presented in the context of their development, use and meaning in their societies.

The exhibition will be divided into seven sections, each focusing on a specific American ceremony or ritual, whether familial, religious, civic, or calendric in nature, with appropriate comparisons drawn to celebrations from Asia, Oceania, Africa, Central and South America. The objects in the exhibition will be drawn from the National Museum of Natural History, the National Museum of History and Technology, the National Collection of Fine Arts, the National Portrait Gallery, the Museum of African Art, the National Air and Space Museum, and the Cooper-Hewitt Museum. Ninety-five percent of the objects, which include masks, shrines, parade regalia, furniture, textiles, and puppets, have never been exhibited before.

Live performances and presentations will be incorporated into the exhibitions much in the fashion of the Smithsonian's annual Folklife Festival. In addition, films, slides, and audio stations will be positioned in each exhibit space. In this way, the presentation of dance, drama, or games will not be limited to the three dimensional objects, but sound and process will stand in tandem with their related objects.

The Smithsonian's Folklife Advisory Council, which consists of scholars of folklife and anthropology outside the Institution as well as of all Smithsonian departments with related collections or research functions, is providing guidance to the project. In addition, 35 curators from nearly all of the Smithsonian museums have contributed their efforts to the project. Registrarial and other staff members from the museums will continue to be involved during the next two years. Design and installation of the exhibition will be under the control of the National Collection of Fine Arts. The folklife presentations will be organized by the Institution's Folklife unit.

A total of \$362,000, of the \$1 million requested for FY 1981 for major exhibitions, is designated for "Celebrations." The \$362,000 comprises \$58,000 for four temporary exhibit technicians; \$23,000 for typesetting, label production, and leaflet printing; \$108,000 for various contractual services including exhibit case and bracket fabrication, film editing, design consultation, and object conservation; \$79,000 for drywall, lumber, paint, plexiglas and other supplies and materials; and \$94,000 for lighting fixtures, security devices, film and slide projectors and similar pieces of equipment.

The Renwick Gallery's normal exhibition budget for FY 1981, as included in the Federal base of the National Collection of Fine Arts, will be fully spent in the production of six smaller exhibitions which will run the first ten months of FY 1981, from October 1, 1980 until the opening of the first phase of "Celebration" in August 1981. The \$362,000 requested here in new resources is necessary for the production and opening of the Smithsonian's first major folklife exhibition and its first major inter-bureau exhibition effort under this heading.

SMITHSONIAN NATIONAL AWARENESS PROGRAM

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING								FEDERAL GRANTS & CONTRACTS	
			UNRESTRICTED				RESTRICTED					
			General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount		
FY 1979 Actual	--	--	--	--	--	--	--	--	--	--		
FY 1980 Estimate	--	--	--	--	--	--	--	--	--	--		
FY 1981 Estimate	--	600	--	--	--	--	--	--	--	--		

*FTP = Full-time permanent positions

Detail of Federal Funding

	<u>Base FY 1980</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1981</u>
Number of Permanent Positions....	0	0	0
Number of Other Positions.....	0	0	0
21 Travel & Trans. of Persons.....		26	26
24 Printing and Reproduction.....		20	20
25 Other Services.....		285	285
26 Supplies and Materials.....		90	90
31 Equipment.....		179	179
 TOTAL	 0	 600	 600

Analysis of Increase

Necessary Pay.....	0
Inflation.....	0
Program Funds.....	600

ABSTRACT - This new program is designed to bring to the attention of the public the major problems facing the life support systems of earth particularly such factors as energy and the environment. In addition, the varied alternative solutions to correct these problems will be addressed. Awareness is the keynote of this program. Its purpose will be to present information, to wide segments of the public in various exciting and entertaining formats, on the sources and limitations of energy and the necessity of the preservation of critical natural environments. For FY 1981, funds of \$600,000 are requested to initiate this Program.

PROGRAM - The Smithsonian Institution can play a major, and possibly, a unique role in the presentation of objective information to the public through a coordinated program of exhibitions, films and written and oral presentations. The expertise of Smithsonian scientists and historians can be used to provide the public with an accurate and objective treatment of critical energy and environmental issues, including the history and current impact of prior policies or habits, the current energy crisis, potential new crises and the implications of future "remedies" to these problems.

The new program initially will rely upon the Smithsonian's chief science exhibition galleries at the National Museum of Natural History (NMNH) and at the National Air and Space Museum (NASM). These two museums attract over fifteen million visitors a year and pursue studies of the natural environment from sun to biota and of uses of technology in energy development. While the National Museum of Natural History and the National Air and Space Museum will take the lead in the development of exhibits, other Smithsonian science bureaus will be involved directly in this process by providing specimens, materials, research information and staff time.

Related to the concepts developed in the exhibitions will be efforts to promote a greater awareness and understanding of earth's life-support systems through the development and dissemination of appropriate educational materials. This educational aspect also will be based on interbureau cooperation. The educational and research staffs of all science bureaus will be involved in developing information on the exhibits themes in the form of printed materials, filmstrips, seminars and workshops. In order to achieve maximum effectiveness, the materials will be designed for different sectors of the population including formal academic institutions--primarily elementary and secondary schools, and nonformal educational organizations such as nature study centers, museums, youth groups, summer camps and community recreation centers. Additional efforts will be directed toward family education within the home. Those who will not be able to view the exhibits at NASM and NMNH, therefore, can be reached through these educational means.

The Program will be under the direction of the Assistant Secretary for Science; this will ensure coherent and cooperative efforts among the science bureaus. A detailed program schedule will be prepared for a five-year period to achieve orderly program development. The Assistant Secretary for Science will be assisted in his oversight function by an advisory committee to be composed of the Smithsonian Science bureaus' directors. Specific topics to be addressed by the Smithsonian National Awareness Program and the precise means by which these concepts will be presented to the public will be determined by this committee.

The Smithsonian Institution plans to begin its Smithsonian National Awareness Program with two major exhibitions, one presented at NASM and the other at NMNH. The exhibition at NASM to be called "The Sun and Energy" will cover various aspects of energy: past, present, and future. The exhibition at NMNH to be entitled "Man and Planet Ocean" will highlight marine settings and human interactions with these settings.

Following the installation of "Man and Planet Ocean" in FY 1982, the Program plans to begin the design of another major exhibition at NMNH to be entitled "The Tropics--A Crucial System Under Stress." This exhibition will feature the stressed environments of the tropics, especially those of the lowland forests and arid coastal regions. The tropical lowland forest, one of the world's richest biological habitats, is being ravaged at an alarming rate by the practice of slash-and-burn agriculture. More than 40 percent of the tropical forests of the world have been destroyed in the past 150 years. Unless this process is curtailed by the year 2000, biological communities of the tropics will be grossly disordered or totally destroyed before we will have been able to understand them or learn how to use them for human benefit. The proposed exhibit will address such questions as: are the tropics our future bread basket; can man adapt the tropical species for medicinal use; and how did early man adapt to the local food supply and environmental conditions? The theme of rational development of the tropics also will be addressed as will the need for developmental activities in order to avoid disrupting the natural balance of this system.

The types of issues to be addressed by the Program beyond the presently planned exhibitions include the impact of spreading deserts into available lands, the fluctuations of the earth's weather systems, the search for new food sources, the impact of volcanic and earthquake activity on man, and the current efforts underway to preserve dwindling stock of genetically important animal and plant species. As with the initial two exhibitions, these future exhibits and related educational materials can be best presented by a cooperative interdisciplinary effort among the Smithsonian Science bureaus.

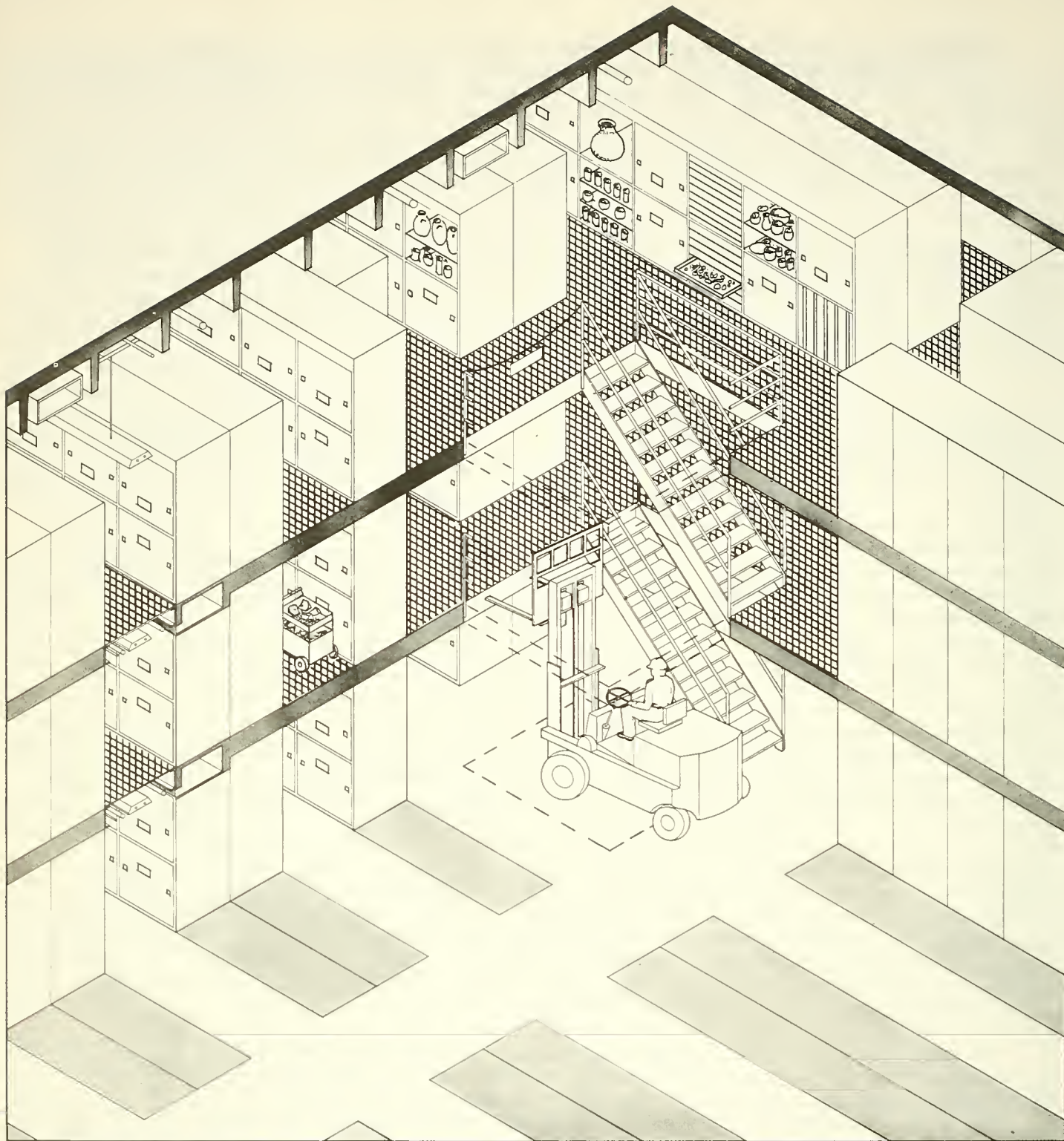
EXPLANATION OF PROGRAM INCREASE - Funds of \$600,000 are requested in FY 1981 to initiate the Smithsonian National Awareness Program. The first phase of the Program will feature two exhibitions. The first of these will be held in the National Air and Space Museum and will be called "The Sun and Energy." It will feature the Sun as the source of almost all of the Earth's energy, and it will portray the current level of information about energy, the role of the Sun in producing energy, the present knowledge of the Sun as a star, and the new devices through which space technology will assist in our future energy conservation and generation options. Examples of historical usage of energy will be highlighted as will today's spectrum of energy choices and tomorrow's range of opportunities. The close relationship between modern aerospace technology and the new energy technologies are subjects of fundamental interest as is the relevance of current space science research studies on the Sun. The exhibition itself will be designed to be highly informative, yet will be interesting and entertaining with many opportunities for visitor participation.

Among the displays will be numerous machine units which will demonstrate advanced concepts for harnessing energy through the use of wave engines and tidal generators. A long neglected aerodynamic device, the windmill, is returning to national prominence and a series of wind-driven models will exemplify historical, modern, and advanced windmill capabilities. Solar energy will be featured in a display detailing the physics of solar processes, similar processes on earth, solar thermal energy arrays of various kinds, photoelectric conversion on earth and in space, and the transmission of converted energy through space. This exhibition, which will open to the public before the end of FY 1981, is estimated to cost \$375,000. The funds will be used for audiovisual units (\$90,000), models and graphics (\$95,000), installation costs and required supplies and materials (\$190,000).

The second exhibition to be undertaken will be installed in one of the largest halls of the National Museum of Natural History (NMNH) and will be entitled "Man and Planet Ocean." The exhibition will highlight marine settings and human interactions with these settings. An entrance to the exhibit will place the oceans of the world in a global context to dramatize the interactions between the seas and the atmosphere, solar radiation, and the continents. Our understanding of these relationships is slowly changing because of our advanced knowledge of the geology of the seafloor. In the main body of the Hall, four marine environments will be installed. These will be balanced living communities that will include live animals and plants of each habitat as well as preserved specimens. The four habitats will include: West Coast temperate (California); East Coast subarctic (Maine); Subtropical (Gulf of California); and East Coast Marsh (Maryland-Virginia). The questions that will be posed and explored by this exhibition will include how energy is stored; how this energy (chiefly biomass) might be cultivated and utilized; how these systems are effected by various forms of pollution, such as oil spills; and how so many species develop and why such diversity is important. In addition, the issue of the conservation of the oceans will be addressed.

In such an exhibit, the museum visitor will gain an increased appreciation of the sea, its diversity of life and an understanding of the critical importance of healthy marine environments to human well being. For FY 1981, funds in the amount of \$175,000 (approximately one-half of the total cost of the exhibition) will be needed for the initial design and equipment of the exhibition which is anticipated to be completed before the end of FY 1982. The funds will be used for research and initial design of the exhibit by contractual personnel (\$60,000), the purchase of equipment needed to begin construction of the large display tanks that will house the living environments (\$89,000), and for travel for the research necessary to fill gaps of knowledge required for the exhibition and for collecting exhibit specimens (\$26,000).

To maximize public education aspects of these exhibitions, their broad themes will be described in various educational materials, including films and written presentations. In FY 1981, an amount of \$50,000 is requested for the educational component of the Program.



MUSEUM SUPPORT CENTER

Perspective Diagram: Proposed three-tiered self-supporting collections storage system.

MUSEUM SUPPORT CENTER EQUIPMENT

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING								FEDERAL GRANTS & CONTRACTS	
			UNRESTRICTED				RESTRICTED					
			General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount		
FY 1979 Actual	--	--	--	--	--	--	--	--	--	--		
FY 1980 Estimate	--	400	--	--	--	--	--	--	--	--		
FY 1981 Estimate	--	2,861	--	--	--	--	--	--	--	--		

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	0	0	0
Number of Other Positions.....	0	0	0
31 Equipment.....	400	2,461	2,861
TOTAL	400	2,461	2,861

Analysis of Increase

Necessary Pay.....	0
Inflation.....	0
Program Funds.....	2,461

ABSTRACT - The planning phase for the Museum Support Center is proceeding according to schedule. Working drawings and specifications will be completed and delivered to the General Services Administration by the architect/engineering firm (Metcalf/KCF) in May 1980, and construction is expected to begin in the fall of 1980. A construction period of approximately two years will be required, leading to completion of the Center in the fall of 1982. The Institution plans to occupy the building and to start a systematic transfer of collections to be stored there as soon as possible after its completion. To prepare for this event and to avoid unnecessary delays, the Institution is requesting for FY 1981 the amount of \$2,461,000 for a part of the Conservation Analytical Laboratory equipment needed for the Center (\$500,000), for the first increment of collection storage equipment (\$1,701,000), and for components for the Center's security and protection system (\$260,000). In each of these categories, substantial lead time is necessary for the procurement of the equipment which must be properly designed, manufactured and assembled, and ready for installation in the fall of 1982. To meet this goal, the Institution must be able to start procurement procedures in FY 1981.

PROGRAM - With planning funds totaling \$900,000 appropriated in FY 1978 and FY 1979, and following appropriation of \$20,600,000 in FY 1980 for construction of the Museum Support Center, planning for the building began in January 1979 with the selection of an architectural/engineering firm (Metcalf/KCF) by the General Services Administration with whom the Smithsonian had entered into an agreement for management of the project. A very tight

planning schedule was established, and all major target dates have been met. Construction is expected to start in the fall of 1980 and be completed about two years later, in the fall of 1982.

The design for which working drawings and specifications are now being developed will provide for a total of 251,000 net assignable square feet in the Center, of which 146,000 square feet will be dedicated to collections storage purposes, and the balance of 105,000 square feet to various laboratory, work area, conservation training and service purposes. A corridor, running the length of the building, links the laboratory/work areas with the storage bays and facilitates the movement of collections and related materials into and throughout the Center. The two-story laboratory/work part of the building has been subdivided into laboratory, work and office spaces for the scientists and curators of the National Museum of Natural History (departments of anthropology, botany, mineral sciences, paleobiology, entomology, invertebrate zoology, vertebrate zoology, and the Smithsonian Oceanographic Sorting Center); for curators from the National Museum of History and Technology (particularly from the division of musical instruments); and for the conservators, scientists and conservation students associated with the Conservation Analytical Laboratory (CAL). This part of the building also houses the registrarial and automated data processing functions, protection services, building management services, mechanical rooms, shipping, receiving and fumigation areas, and other support functions, including health and first-aid services and a small dining area. The departmental laboratory and work areas have been placed conveniently adjacent to the assigned storage areas, which are contained in four storage bays, each approximately 150 feet wide by 240 feet deep and 25½ feet high.

Although the fundamental purpose of the Support Center is to preserve the National Collections and to provide space for research activities by Smithsonian and visiting scientists and curators, as well as for conservation treatment and training, and although a high level of security must be maintained throughout, some exhibition and public educational programming will be possible. These educational programs will be limited not merely to the resources of the Center, but will also make use of parts of the surrounding grounds (approximately 90 acres) and the natural setting in which the building will be located.

The complicated process of the move to the Center, including setting up the laboratories and work areas, preparing the training facilities, and particularly, moving irreplaceable collections to the Center without damage or disorder must be handled with the greatest of care in a progression of systematic and logical steps. Because a date for occupancy could be established only after a final design had been approved, many details of the moving plan remain to be worked out. However, the Institution has identified three categories of equipment and furnishing needs for which specification and procurement procedures must be started early to assure production and delivery by the time of occupancy. These include part of the laboratory equipment required by the Conservation Analytical Laboratory, part of the security system to be operated by the Office of Protection Services, and part of the collections storage equipment to be used by the National Museum of Natural History. A description of the equipment, an explanation of the need for it, and the estimated costs involved for each of these categories follows.

EXPLANATION OF PROGRAM INCREASE:

1. The Conservation Analytical Laboratory will occupy a number of special laboratories and work areas in which to provide conservation treatment and related analytical services required for the care and preservation of the National Collections. The laboratories, and their complementary facilities, will be capable of handling the enormous range of materials and substances which occur in the objects and specimens in these collections. In addition, CAL will be responsible for fumigating the collections as they enter the Museum Support Center. After the Center opens, CAL will conduct a conservation training program and will maintain a conservation information center and clearing house. Much of the equipment required for these functions is complex and must be specially manufactured to precise specifications. Enough lead time must be allowed for the preparation of these specifications, the award of procurement contracts and the production of the equipment to assure that it is available and on hand in the fall of 1982. Particularly important is the equipment needed

for fumigation purposes (estimated cost \$190,000) which must be fully tested and operable before collections can begin to move into the Center. Other equipment requiring adequate advanced preparation includes the X-ray machines (estimated cost \$150,000), and such items as hot tables, vacuum tables and reverse osmosis water supply equipment. An amount of \$500,000 is requested in FY 1981 for these purposes.

2. The Office of Protection Services is responsible for the security that will be necessary at the Museum Support Center. Provision has been made in Support Center plans for a master control room in which security monitoring equipment will be housed. This control room will be linked with other security centers in Smithsonian buildings on the Mall as part of the overall security system of the Institution. Security equipment to be used at the Museum Support Center must be completely compatible in all respects to the master system, and is therefore under the complete control of the Office of Protection Services. Extreme care is being taken to assure that the plans for the security system are completely coordinated with the design plans for the Center. For FY 1981, the Office of Protection Services requests the sum of \$260,000 for receiving, annunciating and reporting equipment, to allow time for design and assembly so that it will be available for installation at the time the Center is ready for occupancy.

3. The National Museum of Natural History requires an amount of \$1.7 million in FY 1981 with which to acquire a portion of the collections storage equipment it will need to have available and on hand when the Museum Support Center is ready for occupancy in the fall of 1982. An overview of the evolution of this project may be helpful to understand the request that is being made to fund over the next few years the storage equipment necessary to accommodate the large collections which will be moved to the Museum Support Center.

Our concern for the proper maintenance of collections goes back many years, over which we have attempted to project collections growth, and assess research requirements. When, eighteen months ago, we commenced more detailed analysis, we started balancing these forecasts against resource requirements. In the process, an anticipated need of some 700,000 square feet was reduced to 338,000 by making more complete use of total cubic footage. A number of important compromises were made, but the Institution nevertheless was confronted with certain minimum requirements: there was no way of compressing collections beyond the point where they could be properly stored and utilized; and useful laboratory facilities required square footage consistent with the work to be done.

In finally settling on a building complex adjusted to 251,000 net square feet (308,000 gross square feet) including 146,000 square feet for the storage bays, the Institution realized that a major effort would have to be made to maximize the utilization of space by every possible means. In essence, the cubic content was the prime consideration. The way to make maximum use of the total space available was to develop the most efficient ways possible to store the collections.

Working with Smithsonian staff, the architect/engineering team and its consultants (the Engineering Systems Division of the FMC Corporation) made a careful analysis of storage technologies used by museums and by industry. At the same time, the team analyzed the building program and came to the conclusion that a departure from previous storage concepts would be necessary if the Institution was to achieve its major aims: maximizing effective use of space, establishing the greatest amount of flexibility, providing optimum safety for the collections and accessibility to them, as well as greatest long-term economy. A number of different alternatives were examined: the use of compactors; re-use of existing equipment; subdividing the storage buildings into two floors; and adapting an industrial form of rack storage system which could be placed into the building to accept modular collection encasement units and be installed incrementally.

After weighing the advantages and disadvantages (cost and physical) of these various methods, the consultant concluded that the best method would be to create self-supporting storage racks which would provide within the cubic footage of the storage buildings an integrated but versatile storage system that would best satisfy the varied storage requirements of the many departments.

The plan selected resulted in a reduction in the square footage of the storage bays as initially designed in the tentative drawings from 162,000 square to 146,000 square feet, while at the same time raising the ceiling height from 19 feet to 25½ feet. This configuration increased the cubic footage available for collections storage from about 650,000 cubic feet to 900,000 cubic feet. The storage system, consisting of self-supporting three-tiered steel racks holding storage compartments with drawers, shelves and other appropriate fixtures, provides for the Institution's storage requirements and can be installed incrementally in unitized floor-to-ceiling sections which eliminates the hazard of installing upper level storage components over collections stored below. This incremental, but safe, approach offers the further advantage in that the purchase of equipment can be phased over the years according to an occupancy schedule. Serviceable storage equipment now in use will be reused to hold down costs.

Under the plan developed by the Smithsonian, approximately half of the storage will be utilized over the next five years to house the existing collections which are scheduled to be transferred to the Museum Support Center, with the balance to be installed gradually in succeeding years for future growth. Because the system is independent of the structure, it offers flexibility for these future growth needs.

The essential facts about this system, the opportunities it offers to meet the Institution's storage requirements for years to come, and the resulting cost implications were not fully known to the Institution until September 1979, when the final report of the consulting firm of FMC was received. Because of the significant and unanticipated expense involved, the report was carefully studied and evaluated over a period of two months before the decision was made to proceed with its general recommendations.

The \$1.7 million requested in FY 1981 will allow time to have a sufficient quantity of the storage system produced for use at the Museum Support Center at the time of occupancy and will enable the National Museum of Natural History to start immediate relocation of its collections to uncongested storage facilities.

TOTAL ESTIMATED REQUIREMENTS AND FUNDING PLAN:

The costs of equipping the building, including the first phase of storage and other items total approximately \$16,715,000 including estimated inflation. Of this amount, \$9,542,000 is for storage racking and related equipment; \$4,964,000 is for laboratory, office, library and protection services equipment and \$2,209,000 for expected inflationary increases.

The Institution expects to apply funds from several sources over the next five fiscal years to help meet the necessary costs: \$650,000 in rent savings to be available when the Oceanographic Sorting Center moves to the new building; \$2 million for equipment provided within the base of the Museum of Natural History and \$750,000 in unrestricted trust funds of the Institution. The balance of \$13,315,000 is to be requested from the Congress phased over a five-year period beginning with the request for \$2,461,000 in fiscal year 1981.

The second phase of the equipping process would begin in fiscal year 1986, or later, using funds available within the base of the Natural History Museum. That cost is estimated at approximately \$6.5 million in FY 1980 dollars.

ADMINISTRATION

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING								FEDERAL GRANTS & CONTRACTS	
			UNRESTRICTED				RESTRICTED					
			General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount		
FY 1979 Actual	249	7,024	144	4,426	--	70	1	71	--	2		
FY 1980 Estimate	256	8,081	167	5,504	--	13	1	39	--	--		
FY 1981 Estimate	260	8,598	167	5,808	--	14	1	50	--	--		

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	256	4	260
Number of Other Positions.....	3	2	5
11 Personnel Compensation.....	6,435	264	6,699
12 Personnel Benefits.....	566	29	595
21 Travel & Trans. of Persons....	41	12	53
22 Transportation of Things.....	4		4
23 Rent, Comm. & Utilities.....	122	7	129
24 Printing and Reproduction....	106	9	115
25 Other Services.....	407	145	552
26 Supplies and Materials.....	276	44	320
31 Equipment.....	124	7	131
TOTAL	8,081	517	8,598

Analysis of Increase

Necessary Pay.....	103
Inflation.....	72
Program Funds.....	342

ABSTRACT - The Administration activity grouping includes central management oversight and services provided by the Offices of the Secretary, Under Secretary, Assistant Secretary for Administration, General Counsel, Treasurer, and Coordinator of Public Information and the Director of Facilities Services (responsible for the Offices of Facilities Planning and Engineering Services, Plant Services and Protection Services) and specialized administrative and technical offices: this grouping includes the Offices of Audits, Computer Services, Equal Opportunity, Management Analysis, Personnel Administration, Printing and Photographic Services, Programming and Budget, Supply Services, Contracts, and Travel Services. It also contains components of the Office of the Treasurer including the Accounting Office, Office of Grants and Risk Management, and Investment Division. As a group, these organizational units receive appropriated funds and nonappropriated unrestricted Trust funds for their operating support in approximate balance to the funding of the Institution. These

organizational units serve all programs and activities of the Institution. For FY 1981, an increase of four full-time permanent positions and \$342,000 is requested. Necessary pay in the amount of \$103,000 is required for existing staff and an amount of \$72,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - Within this activity, the Office of the Secretary, with the assistance of the Office of the Under Secretary, is responsible for planning, implementing and reviewing the progress of all programs of the Institution. The Office of the Assistant Secretary for Administration, including the Director of Facilities Services, is responsible for a broad range of administrative and technical services.

The Office of General Counsel provides legal services for the Smithsonian including those services associated with operating an institution similar to a university or charitable corporation and those that are common to Governmental organizations.

The Office of the Treasurer has the overall responsibility for the financial management of the Institution. This includes the direction of financial planning, accounting, payroll, and financial reporting, administration of grants and insurance, management of certain auxiliary activities such as the museum shops, handling of bank relations, and oversight of investments.

The Office of the Coordinator of Public Information is composed of the Offices of Public Affairs, Congressional Liaison and Special Events. These offices are responsible for providing information about the Smithsonian and its programs to the general public and the Congress, for overseeing legislation pertaining to or of general interest to the Institution, and for arranging special events associated with exhibit openings, lectures and other presentations.

The Office of Audits, which reports to the Under Secretary, is responsible for performing all internal and external auditing functions of the Institution. The internal function includes responsibility for auditing Federal operating units' programs and staff offices as well as nonappropriated Trust-funded activities of the Institution. The external audit function involves the audit of documentation in support of claims, cost proposals, and cost and pricing data arising from contracts, grants and other financial agreements funded by the Smithsonian. These audits are performed upon request of the contracting officer and as required by law.

The Office of Computer Services is responsible for developing automated administrative, collections management, and research support systems. The Office works with curators, historians, scientists, and management personnel in helping them to apply computer techniques to the storage, assembly, analysis and reporting of data required for museum and laboratory operations and for a wide range of administrative and business needs.

The Office of Equal Opportunity plans, conducts and monitors a positive action program to provide equality in all Smithsonian employment practices and program activities. Major efforts include affirmative action, counseling, upward mobility, a women's program, a cooperative education program, and special efforts for minorities, women, the Spanish-speaking, and handicapped persons, all aimed at ensuring equality of opportunity.

The Management Analysis Office performs general management staff assistance and advisory services related to administrative operations. The Office makes studies of systems and procedures, prepares and distributes announcements and instructions covering general policies and procedures and operates a forms management program.

The Office of Personnel Administration is responsible for recruitment, placement, positions classification, employee training and development, labor management relations, workers' compensation, personnel policy management evaluation and program development. A continuing effort is the implementation of the Civil Service Reform Act of 1978.

The Office of Printing and Photographic Services is the Institution's central office for technical advice, guidance and production of all matters concerning photographic, duplicating and printing services. The Office coordinates photographic and printing activities and supplies technical support to the curatorial, scientific, and technical and administrative staff. It also provides photographs, slides and transparencies with cassette lectures to the general public, schools, research foundations, other museums and Government agencies.

The Office of Programming and Budget formulates the consolidated Federal and nonappropriated Trust fund budgets for review and approval by the Secretary and Board of Regents. Approved budgets are developed for submission to the Office of Management and Budget and the Congress. Appropriated and nonappropriated Trust fund budgets are administered and monitored to help assure that program needs are met and that the Institution's accountability is maintained.

The Office of Supply Services is responsible for the policy, planning, and coordination of the Institution's procurement contracting, property management, and supply program. It buys supplies, materials, contractual services, and equipment for research, curatorial, exhibits preparation, and other Smithsonian activities. The Office also maintains all property records and schedules and oversees periodic inventories to ensure proper accountability and security. The Contracts Office assists in obtaining Federal grants and contracts for work which the Institution is qualified to perform and negotiates certain specialized procurement contracts.

The Travel Services Office plans itineraries and makes arrangements for travel in support of the research, curation, and administration of the Institution so that these functions can be accomplished in the most efficient and economical manner possible.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an additional four positions and \$342,000 are sought for the accounting, audits, computer, equal opportunity, facilities, general counsel, and photographic functions to enable them to meet greater and more complex workloads and to provide sufficient funds for the functioning of several smaller administrative offices that have limited base resources.

The total amount of \$50,000 is sought for the Accounting Office to implement an integrated payroll/personnel management information system. Initial planning and development for the system began in FY 1979 and will continue through FY 1980, culminating in a new system scheduled for implementation in FY 1981. The Accounting Office is responsible for collecting, storing, analyzing and reporting financial information to all levels of Institutional management, as well as the General Accounting Office, Office of Management and Budget, and the Treasury Department. Much of the data is stored and accumulated in computer files. The current system is ten years old and is not integrated with a personnel system with which much data must be reconciled. In order to meet effectively management needs and requirements stipulated in legislation such as the Civil Service Reform Act, a major system overhaul is necessary. Final systems specifications are to be submitted in March 1980 followed by planning and implementation over an eighteen-month period. An amount of \$25,000 is requested for the salary of a computer systems analyst to coordinate systems requirements and complete systems testing including any problem resolution that will be required. An additional \$25,000 in computer time will be required for test runs and for operation of two systems in parallel while the integrated system is being tested and problems resolved.

The Office of Audits conducts internal audits for all Federal programs and nonappropriated Trust-funded activities of the Institution. These audits currently are conducted on a seven-year cycle. Reports on the management of the Institution, agreed upon by the Board of Regents, have recommended that the audit cycle be reduced to five years. The General Accounting Office's optimal recommendation is for audits to be conducted on a three- to four-year cycle. One additional auditor position and \$20,000 is requested to enable the Office of Audits to make progress toward reaching its short-term goal of a five-year cycle.

For the Office of Computer Services (OCS) an amount of \$30,000 is sought for commercial programming. Whenever possible, the Institution attempts to contract for outside support services (rather than hiring additional staff) if this approach will produce effective results. About two-thirds of the OCS staff time must be devoted to maintaining and improving ongoing applications (some 300 projects in 29 organizations). Consequently, resources for undertaking new applications are badly limited. There is currently a ten-staff-year backlog in systems and programming requests and OCS customers are being supported at only about 40 to 50 percent of their requirements. Many of the most urgent customer requests lend themselves to commercial contract programming since they require minimal familiarity with Smithsonian operations. Examples are: the Materials Inventory Control System and a Work Control Planning and Estimating System; both are commercial applications for the Office of Plant Services.

An amount of \$65,000 is sought for the Office of Equal Opportunity to establish an Institutional cooperative education program. This program will strengthen greatly the Institution's ability to locate and place minorities and women in scientific and curatorial professional positions. Through cooperative education, promising students will work full-time at a Smithsonian museum or laboratory under professional direction for part of the academic year while working toward a degree in a field relevant to the Institution. Upon completion of the program, students can be offered full-time positions in the areas in which they have had experience. Of the \$65,000 requested, funds of \$35,000 will be used for support of a part-time position to coordinate the program among the various museums, travel for recruitment of students, and development, printing, and distribution of promotional materials to colleges and universities. The remaining \$30,000 will be used to hire three to five cooperative education students every six months. In FY 1979, an amount of \$20,000 nonappropriated Trust funds was expended in order to help support this important affirmative action program.

The Office of the Director of Facilities Services was established in FY 1979 in order to oversee and strengthen central management of critical Institutional support offices having responsibility for the Institution's physical plant. These offices are the Offices of Facilities Planning and Engineering Services, Plant Services and Protection Services which have combined resources of 911 positions and \$29 million. Programs administered by these offices include construction management, plant maintenance, and protection. One additional position and \$35,000 for a program analyst is sought to provide the Director's Office with strengthened review, analytical and coordinative capabilities, particularly in the increasingly significant areas of construction management and energy conservation. As detailed in the Smithsonian's Five-Year Prospectus, construction and restoration and renovation needs over the period from FY 1981 to FY 1985 total approximately \$125 million. The proposed new position also would be involved with coordinating the relationships between major construction projects managed by the Office of Facilities Planning and Engineering Services and plant maintenance projects performed by the Office of Plant Services. Additionally, with the dramatic increases in utilities costs over the past few years there is a need to develop even further the Institution's energy conservation program. The Institution's efforts under this program to fund energy conservation projects, are described in the Uncontrollable Section of this budget on page A-6.

For the Office of General Counsel, an additional position and \$40,000 are sought. The Office of General Counsel provides effective legal oversight of the Institution's program. The scope and volume of the workload in carrying out this broad function parallel the growth and direction of the diverse programs of the Institution, as well as the developments in the law which generally affect Smithsonian operations. Presently, each secretary handles the support needs of two staff attorneys. With the increasing volume of work, the secretarial staff has been over-burdened. In order to maintain the efficiency and effectiveness of the Office, an amount of \$30,000 is requested to add one full-time and one part-time secretary. These additions will increase the production of staff attorneys by relieving them of administrative burdens that can be handled as well by secretarial staff. A further \$10,000 is requested to extend the hours of a part-time attorney currently on the staff. The number

and complexity of matters within the expertise of this person have continued to increase, particularly with reference to federal tax matters, as a result of the Tax Reform Act of 1976 and the Revenue Act of 1978.

An amount of \$50,000 is requested for the Office of Printing and Photographic Services to obtain contractual processing of routine black and white photographic work, such as print development, enlargements and duplications. Such services are available from highly competitive sources at prices that compare favorably with in-house production. This outside processing will allow the Office to concentrate its staff on producing original photographs in support of collections management and on custom processing support of research, exhibitions, and publications. A further \$20,000 and a position are required to develop, in collaboration with the Smithsonian Archives and Office of Computer Services, a catalogue of about one million photographic negatives to increase vastly the Institution's ability to provide visual materials to students, researchers, publishers, and others.

There are three relatively small units within Administration which have base shortages resulting from labor-intensive operations and little or no turn-over in personnel. These units are Management Analysis, Programming and Budget and Treasurer. Additional funding of \$32,000 is sought for salaries and benefits, offices supplies, training, equipment maintenance and replacement, and computer time.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by allotments and are derived in part from overhead recovery on grants and contracts administered by the Smithsonian and from administrative fees charged to Trust-funded activities. Funding of these centralized services from both Federal and nonappropriated sources produces a ratio of Federal and Trust fund administrative support approximately in proportion to the operating program expenditures of the Institution as a whole. (The amounts shown under unrestricted general represent gross expenditures before the application of overhead recovery of \$4,038,000 in FY 1979, \$4,924,000 in FY 1980 and \$5,390,000 in FY 1981.) Included here also are resources to cover the cost of producing, distributing, and marketing photographic materials and slide sets and funds to help defray costs of the Photographic Services division. Special purpose Trust funds include fluid research awards used for seminars and related research, expenditures for the annual Christmas dance of the Smithsonian Womens' Committee, the net proceeds of which are distributed to individual bureaus for specific research or education projects, and a centralized revolving fund to recover computer paper costs from users. In FY 1979, funds were also provided from the Institution's Collections Acquisitions, Research and Education Program (approximately \$20,000) and were used to provide the initial support for the Institution's Cooperative Education Program. Expenditures under the Collections Acquisitions, Research and Education Program have been recorded for FY 1979, but not yet for FY 1980. This explains the variation in the totals shown between FY 1979 and FY 1980 and FY 1981.

Restricted Funds - Included in this category are endowment bequests and foundation grants for ornithological and biological research and annuity payments to a former Under Secretary of the Institution.

Federal Grants and Contracts - In FY 1979, costs were incurred by the Office of Computer Services for external users of the Institution's computer system. No external use is anticipated for FY 1980 or FY 1981.

FACILITIES SERVICES

Summary

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	908	27,090	11	701	4	-7	--	--	--	--
FY 1980 Estimate	911	28,957	12	808	3	64	--	--	--	--
FY 1981 Estimate	925	32,307 ^{/1}	13	871	3	9	--	--	--	--

*FTP = Full-time permanent positions

^{/1} This amount includes \$2,570,000 for uncontrollable increases related to utilities costs (\$2,400,000) and rental payments (\$170,000).

Analysis of Increase (Federal Request)

Necessary Pay.....	246
Inflation.....	148
Program Funds.....	386

The Facilities Services grouping consists of three units: the Office of Facilities Planning and Engineering Services; the Office of Protection Services; and the Office of Plant Services. This new grouping, aimed at bringing together buildings--related activities, replaces the Support section that appeared in the FY 1980 budget submission. The Office of Printing and Photographic Services (OPPS), formerly listed under Support, has been recategorized; the Office now reports directly to the Assistant Secretary for Administration. The Office of Facilities Planning and Engineering Services reports directly to the Director of Facilities Services as do the other two offices under this new grouping. The FY 1980 base for Facilities Services' units totals 911 positions and \$28,957,000. A program increase of 14 positions and \$386,000 is requested for FY 1981. Necessary pay of \$246,000 is required for existing staff and an amount of \$148,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

For the Office of Facilities Planning and Engineering Services, an increase of one position and \$127,000 is sought to keep pace with the Institution's growing architectural and engineering workload, to improve administrative management of a large number of individual physical plant projects, and to provide adequate base resources for the Office. The Office of Protection Services is requesting a total of eight additional positions and \$160,000. Eight positions and \$100,000 would help to alleviate the critical shortage of guards throughout the Institution and funds of \$60,000 are needed for security systems equipment associated with the installation of a proprietary alarm system. Finally, to meet the increased demand for trades, crafts and rigging services in museums, art gallery buildings and collection storage areas in the Washington, D.C. area, and to provide additional custodial capability, the Office of Plant Services is seeking an additional five positions and \$99,000.

The sources and uses of nonappropriated Trust funds are explained individually for each line item in this grouping.

OFFICE OF FACILITIES PLANNING AND ENGINEERING SERVICES

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	31	910	7	145	--	--	--	--	--	--
FY 1980 Estimate	35	1,104	7	191	--	--	--	--	--	--
FY 1981 Estimate	36	1,255	8	225	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	35	1	36
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	948	50	998
12 Personnel Benefits.....	91	6	97
21 Travel & Trans. of Persons....	12	1	13
23 Rent, Comm. & Utilities.....	8	6	14
24 Printing and Reproduction....	10	4	14
25 Other Services.....	17	42	59
26 Supplies and Materials.....	10	8	18
31 Equipment.....	8	34	42
TOTAL	1,104	151	1,255

Analysis of Increase

Necessary Pay.....	18
Inflation.....	6
Program Funds.....	127

ABSTRACT - The Office of Facilities Planning and Engineering Services (OFPES) provides professional architectural and engineering services to the Institution in support of the maintenance, repair and improvement of its physical plant. Services include short and long-range planning, cost estimating, contract supervision, construction management and general construction administration. For FY 1981, an increase of one position and \$127,000 is sought for the following requirements: (1) one position and \$38,000 to strengthen the planning and estimating function; (2) \$40,000 to allow for contractual architectural engineering services; (3) \$30,000 to procure automated office equipment; and (4) \$19,000 for supplies, materials and other services in support of existing operations and required travel. Necessary pay in the amount of \$18,000 is required for existing staff and an amount of \$6,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Office of Facilities Planning and Engineering Services provides planning, engineering, architectural and related administrative services to the Institution and its

facilities located in the Washington metropolitan area as well as at the Chesapeake Bay Center in Maryland, the Cooper-Hewitt Museum in New York, the Mt. Hopkins Observatory in Arizona and the Tropical Research Institute in Panama. This work is performed by a staff of professional architects; electrical, mechanical, and structural engineers; and construction managers. Other staff members include architectural and engineering draftsmen, specification writers, and administrative support. The services provided by the Office include developing future year physical plant projects and budget estimates and facilities masterplans preparing detailed designs and specifications for current year projects; supervising and reviewing architectural and engineering design contracts; conducting architectural studies and investigations of buildings' operating problems and functional deficiencies; supervising construction contracts awarded by the Institution's contracting officer; reviewing designs prepared by the museums' exhibit staffs to ensure their compliance with safety, health, accessibility and other technical standards; and maintaining a central library for cataloguing, filing, and identifying all plans, drawings and specifications related to Smithsonian buildings and properties.

During the past several years, OFPES has experienced a steady growth in workload which reflects the Institution's priority to assure adequate maintenance of an aging and complex physical plant, to upgrade fire detection and suppression systems, to eliminate architectural barriers, and to correct unsafe conditions. The Institution's energy conservation program will depend increasingly on OFPES for assistance with projects designed specifically for the purpose of reducing energy consumption. Major renovations of heating, ventilating and air conditioning systems in Smithsonian buildings are needed in order to assure energy efficiency and to accommodate environmental conditions necessary for the preservation of the collections. The development of the outlying facilities also will require continued support from OFPES, as will building alterations to meet changing program emphases. OFPES' workload is directly related to the Institution's Restoration and Renovation of Buildings account (R&R). In FY 1979, the R&R appropriation totaled \$2.1 million; in FY 1980, the R&R appropriation totaled \$5.3 million; and the R&R budget request for FY 1981 is \$8.8 million. This increase in the R&R program will demand a significant increase in support from all functional areas within OFPES, as will the development plans for future year needs.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of one position and \$127,000 is sought to keep pace with the growing workload, to improve administrative management of a large number of individual physical plant projects, to provide adequate base resources for supplies, materials, equipment and services for routine operations, and to provide for a modest increase in travel.

Two high Institution priorities carried out by OFPES are: (1) to accelerate the development of long-range maintenance repair and improvement programs for each of the Institution's facilities and (2) to accelerate the implementation of budgeted projects by early assembly of detailed information so that these projects can begin within the fiscal year for which funds are made available.

The Office of Facilities Planning and Engineering Services has a staff of three engineer planner/estimators who are responsible for developing electrical, mechanical and structural requirements as well as cost estimates for a large number and variety of current and future year R&R projects. These employees also offer assistance with the Institution's major construction programs and with projects accomplished by the Institution's maintenance and exhibits staffs. For FY 1981, an increase of one position and \$38,000 is requested for an additional engineer/planner estimator to strengthen this function in order to meet the heavy and growing workload. The pricing instability in the construction industry, which demands greater and more time-consuming effort, further emphasizes the need for additional support in the estimating area to keep pace with market trends.

In order to hold down the need for additional permanent staff, to provide expertise needed for special problems beyond the capability of the staff, and to increase support for the growing workload, an amount of \$40,000 is requested to provide base resources for contractual architectural engineering services. The use of contractual services will represent a new way for the Office to fulfill its mission and will provide badly-needed assistance with the development of facilities master plans, the preparation of contract documents for construction projects, feasibility studies, cost estimating, preliminary planning and energy conservation studies.

In order to save valuable staff time, to improve administrative management of a broad range of physical plant projects and, again, to meet the heavy workload, an amount of \$30,000 is requested to purchase word processing equipment to automate functions that currently are performed manually. As an alternative to additional administrative staff, the use of equipment has been chosen as a more efficient and economical means of maintaining control over several hundred projects by automating bookkeeping, filing, work scheduling and other tasks. This equipment, which will be operated by administrative personnel already onboard, will allow for the automatic storage and retrieval of financial data, such as cost estimates, project budgets, contract amounts and changeorders; narrative information about each project, including description summaries and the status of work planned or underway; and workload and other statistics. This same equipment will expedite the preparation of lengthy project specifications and other typed documents. In addition to meeting the information needs of Office of Facilities Planning and Engineering Services' staff, such equipment will greatly strengthen the ability to keep managers throughout the Institution informed as to the status of their projects.

An amount of \$19,000 is requested to increase base resources for supplies, materials, equipment and other services for routine operations and in support of heavier workloads, and for travel to provide design and contract supervision services in New York, Panama and Arizona. These funds will be used for essential technical manuals and publications, which are updated annually; for office and drafting supplies, materials and equipment; and for services needed to reproduce an increasing number of project plans and specifications necessary for construction contracting.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by an allotment and are used primarily to cover the salary and benefits costs of seven employees in FY 1980 (approximately \$171,000) and eight employees in FY 1981 (approximately \$213,000).

OFFICE OF PROTECTION SERVICES

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING								FEDERAL GRANTS & CONTRACTS	
			UNRESTRICTED				RESTRICTED					
			General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount		
FY 1979 Actual	555	9,353	--	--	--	2	--	--	--	--		
FY 1980 Estimate	555	10,315	--	20	--	36	--	--	--	--		
FY 1981 Estimate	563	10,682	--	20	--	5	--	--	--	--		

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	555	8	563
Number of Other Positions.....	90	0	90
11 Personnel Compensation.....	8,583	227	8,810
12 Personnel Benefits.....	841	22	863
21 Travel & Trans. of Persons.....	15	1	16
23 Rent, Comm. & Utilities.....	6		6
24 Printing and Reproduction.....	3		3
25 Other Services.....	457	27	484
26 Supplies and Materials.....	304	22	326
31 Equipment.....	100	67	167
42 Insur. Claims & Indem.....	6	1	7
TOTAL	10,315	367	10,682

Analysis of Increase

Necessary Pay.....	150
Inflation.....	57
Program Funds.....	160

ABSTRACT - The Office of Protection Services (OPS) is responsible for the security, fire protection, safety and health programs of the Smithsonian. For FY 1981, an increase of eight positions and \$160,000 is requested. Eight positions and \$100,000 are sought for uniformed guards, who will be assigned to three museums where the shortage of guards is particularly severe, and \$60,000 is requested for security systems equipment associated with the proprietary alarm system. Necessary pay of \$150,000 is required for existing staff and an amount of \$57,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Office of Protection Services provides security, fire protection, safety, and health services for visitors and staff of the Smithsonian Institution. These responsibilities are carried out in accordance with P.L. 82-206 and P.L. 88-391 relating to the

policing of the buildings and grounds of the Smithsonian Institution and its constituent bureaus, and P.L. 91-596 and Executive Order 11807 which relate to occupational health and safety. The Office of Protection Services' programs are administered to meet the needs of 27 million visitors each year and more than 5,000 staff members of 11 major museums and art galleries and other facilities in the metropolitan Washington, D.C. area and the Cooper-Hewitt Museum in New York City. In FY 1979, the Office of Protection Services assumed protection responsibilities for the Museum of African Art. As a result, six positions and \$80,000 were transferred to the Office of Protection Services from the Museum of African Art's base funds. The Office of Protection Services provides occupational health and safety programs at the National Zoological Park, the Smithsonian Tropical Research Institute, the Chesapeake Bay Center for Environmental Studies, and the Smithsonian Astrophysical Observatory. Inspections, technical assistance and other advisory services also are provided to Smithsonian bureaus. Uniformed, plainclothes and security officers assisted by their trained dogs are placed in the galleries, around the grounds, and at entrances and exits during the day. They conduct security and fire patrols after the museum buildings are closed to the public. Security officers are responsible for areas designated as "posts." A post may be one point (for example, a museum entrance), or an area, varying in size and determined by the use of the area, crowd conditions, the value of objects on display, the vulnerability of those objects to accidental damage, vandalism or theft, the effective field of vision of the assigned protection personnel, and the ability to use electronic devices. The number of guards required to staff one post may vary from one (a post staffed eight hours a day, five days a week) to five (a post staffed 24 hours a day, seven days a week). The security force operates 24 hours a day, seven days a week. An extensive radio and telephone communications network enables security officers to respond quickly to all situations. An average of over 225 alarms are received daily, all of which demand immediate response. The security force also investigates accidents, reports possible fire and safety hazards and malfunctions in mechanical and environmental equipment, and provides information to museum visitors.

The security force is supported in its effort by a professional and administrative staff which includes training specialists, safety specialists, fire engineers and inspectors, a doctor, nurses, alarm systems specialists and investigators. This staff provides in-depth reviews and formulates long-range plans for improved security and safety.

Fire and safety programs include quarterly fire inspections of each facility and annual safety and industrial hygiene inspections. These have resulted in long-range plans for installation of required new and upgraded fire systems for compliance with safety regulations. Fire protection master plans have been completed recently, through coordination with the Office of Facilities Planning and Engineering Services, for the National Museum of History and Technology and the National Museum of Natural History. Fire safety presentations are made to approximately 80 percent of Smithsonian staff each year. The safety staff has conducted an inventory of areas where asbestos exists and is currently participating in efforts to eliminate potential hazards in the Institution. The health service operates four health units for the convenience, assistance and emergency needs of visitors and staff. In FY 1979, the health units treated 14,346 individuals (an average of almost 52 a day); administered immunizations for seasonal diseases and occupational hazards; and conducted screening programs to detect undiagnosed diabetes and hypertension.

The number of misdemeanors and felonious incidents committed in calendar year (CY) 1979 totaled 260, a decrease of 23 percent from CY 1978. Special efforts are made to curtail crime through the use of K-9 teams and the deployment of plainclothes officers.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an additional eight positions and \$160,000 are requested. Eight new positions and salaries and support costs of \$100,000 are requested for uniformed guards who would help to alleviate a shortage of guards throughout the Institution. Currently, there are 486 uniformed guards to staff the 11 major museums in the metropolitan Washington, D.C. area and the Cooper-Hewitt Museum in New York City.

Thorough evaluations of the Institution's protection requirements indicate that the existing facilities are understaffed by 63 full-time permanent guards. The Institution's Five-Year Prospectus FY 1981 - FY 1985 calls for the phased elimination of the Office of Protection Services' staffing shortage, a problem that poses a very serious threat to the safety and security of the Smithsonian's visiting public, staff and valuable collections. Recent incidents of assault and theft clearly emphasize the importance of moving toward the goal of meeting the identified guard requirements of the Office of Protection Services. The Institution's comprehensive Collections Management/Inventory Program also stresses the highest level of security. Over the past several years, the Institution has been making steady progress toward alleviating this shortage through the provision of new positions and management efforts such as the replacement of guards serving as checkroom attendants with non-guard staff who work part-time thereby freeing the guards for more appropriate museum protection work. The new positions sought would be assigned to exhibitions galleries in three museums where the shortage is particularly severe. These are the "Ordnance Hall" of the National Museum of History and Technology; the "Cultures of Africa and Asia" exhibition in the National Museum of Natural History; and the first floor east galleries of the Fine Arts and Portrait Gallery building.

An amount of \$60,000 is requested to purchase security systems equipment required as the Institution moves toward the completion of a proprietary alarm system. The funds will be used to acquire control panels and components such as the sensor, contact, and vibrator detection/alarm systems which will be wired into the control panels by Smithsonian technicians. The funds also will be used to purchase additional equipment for the maintenance shop. This equipment will enable the technicians to maintain the security systems currently installed and to conduct preventive maintenance programs for fire and exit doors, door closers, and electric locking devices. Under the Museum Support Center Equipment heading in the Special Programs section on page A-147, funds of \$260,000 are requested for a portion of the protection equipment required for the Museum Support Center. This equipment will be installed while the building is under construction.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purposes Funds - These funds are provided by an allotment and from reimbursements for the use of guard services at special events and lectures at Smithsonian facilities. The funds are used for the salaries of part-time security aides and for the purchase of supplies and equipment.

OFFICE OF PLANT SERVICES

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCES OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1979 Actual	322	16,827	4	556	4	- 9	--	--	--	--
FY 1980 Estimate	321	17,538	5	597	3	28	--	--	--	--
FY 1981 Estimate	326	20,370	5	626	3	4	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1980	Proposed Adjustments	Est. FY 1981
Number of Permanent Positions....	321	5	326
Number of Other Positions.....	10	2	12
11 Personnel Compensation.....	6,356	161	6,517
12 Personnel Benefits.....	623	16	639
21 Travel & Trans. of Persons....	7	2	9
23 Rent, Comm. & Utilities.....	9,383	2,570	11,953
24 Printing and Reproduction.....	8		8
25 Other Services.....	595		595
26 Supplies and Materials.....	452	85	537
31 Equipment.....	114	-2	112
TOTAL	17,538	2,832	20,370

Analysis of Increase

Necessary Pay.....	78
Inflation.....	85
Other Uncontrollables.....	2,570
Program Funds.....	99

ABSTRACT - The Office of Plant Services (OPlantS) operates, maintains, and repairs 11 museums and art gallery buildings and a number of other work and collection storage areas located in the Washington metropolitan area. It provides utilities, transportation, mail and telephone services in support of research, exhibit, education and other public programs. In addition, technical service and assistance are made available to other Smithsonian units located outside of the Washington, D.C. area. For FY 1981, an increase of five positions and \$99,000 is sought for the following requirements: (1) four positions and \$58,000 to meet the increased demand for trades and crafts services; (2) one position and \$18,000 for rigging services capabilities; and (3) \$23,000 to provide additional custodial capability. Necessary pay in the amount of \$78,000 is required for existing staff and an amount of \$85,000 is sought to compensate for the effects of inflation in nonsalary areas of expense. An additional \$2,570,000 for utilities, postage, telephone, and rent costs is being requested in the Uncontrollable Section.

PROGRAM - OPlantS operates, maintains and repairs the Smithsonian's physical plant on or near the Mall, including approximately 2.6 million net usable square feet in 11 museums and art galleries. Services also are provided to other work and storage areas including space in leased facilities. Operational responsibilities for utilities funding and management include the maintenance of large and complex air conditioning, heating and ventilating systems and electric or electronic environmental controls and systems for the comfort of visitors and for the protection of buildings, natural history specimens, paintings, sculptures, and objects of American history and technology.

Trade and craft assistance, such as carpentry, painting, plumbing, sheetmetal and electrical work, is provided to hundreds of research projects, exhibition installations and special public events every year. Packing, crating, warehousing and moving services are carried out for museum objects and collections. OPlantS also has responsibility for communication systems including the management and funding of telephone installations and services (Federal Telecommunications Network System and local calls), and the processing of and payment for mail. Transportation services, including maintenance, repair and operation of vehicles, are carried out by the Office as well.

The computerized management program installed in all Smithsonian non-art museums, became fully functional in FY 1979. This system, utilizing remote sensors to assure that prescribed levels of power demand are not exceeded, has resulted in avoiding an additional \$1,000,000 in expenses for electrical costs from 1975 to 1979.

In FY 1979, OPlantS completed the installation of a computerized administrative instruction and reporting system for scheduling preventive maintenance requirements for all fire prevention, automatic lighting, guard stations, and heating, ventilating and air conditioning mechanical equipment in the major Smithsonian buildings. In FY 1980, this system was expanded to include the Cooper-Hewitt Museum in New York and the Museum of African Art. Additionally, the system was expanded to identify preventive maintenance requirements for all roofing systems as well as for major electrical transformers and switchgear. In short, the system is continually being expanded and refined, as staffing and funds become available, to assure efficient maintenance of Smithsonian physical plant property and to contribute to the safety of the Smithsonian's collections and buildings.

The installation of a computerized building equipment monitoring system to monitor and analyze the operation of the various mechanical equipment in major Smithsonian museums was completed in FY 1980. This system, which involves the installation of sensors on over 3,900 pieces of equipment, automatically will alert a central computerized control center to equipment malfunctions. As a result of this system installation, approximately 25-30 engineers who had been performing continual inspection tours were freed up to perform critical operations, preventive maintenance, and repair and inspection tasks related directly to the physical plant. As a result, the number of additional mechanics needed to perform these important tasks has been reduced significantly.

Also in FY 1979 and FY 1980, OPlantS continued to make improvements in its supply inventory system, its project planning and estimating capability, and its vehicle preventive maintenance program. OPlantS also plays a major role in contributing to the overall Smithsonian energy conservation efforts, discussed more fully in the Uncontrollable Section on page A-6.

EXPLANATION OF PROGRAM INCREASE - For FY 1981, an increase of five positions and \$99,000 is sought to increase OPlantS' capability to provide trades, crafts and custodial support to the Institution's physical plant and museum programs. As a result of the increased age of the Institution's major buildings, the increased usage of OPlantS personnel for exhibits installations, at a cost significantly lower than that provided by outside contractors, and the addition of the Museum of African Art, there has been an increasing demand on trade and crafts shops for service. This increased demand has resulted in a backlog of work waiting to be planned, estimated and accomplished. The former 60 day average per project has increased to a 120 day average. As a result, needed minor repairs and improvements are being delayed.

To reduce this backlog to a more acceptable level, four additional positions (electrician, painter, sheetmetal mechanic and roofer) and \$58,000 are requested.

The Rigging Shop, operated by OPlantS, is used extensively by the exhibits units in all major Smithsonian buildings to insure the proper handling, delivery and placement of very heavy, often oversized, objects of the collection. This shop, which consists of four rigger positions, has played a major role in the delivery and placement of the objects displayed in the National Air and Space Museum. As curators and exhibits personnel find that the quality of work provided by this shop is both superior and less costly than that provided by outside contractors, the demand for service has increased. To insure that this unit can meet the demand and provide the much needed service in a timely manner, an additional position for a rigger and \$18,000 are requested.

An increase of \$23,000 for two part-time positions is requested to provide additional custodial support for the Anacostia Neighborhood Museum (ANM) and the Smithsonian Institution Service Center (SISC). The ANM is open seven days a week and currently has only one custodial employee. As a result of this staffing shortage, the building does not get cleaned and serviced properly and therefore, this important Museum does not meet acceptable cleanliness and health standards. The SISC has evolved slowly from a predominantly dead storage facility to a more active one with a shop and an office complex. This change has resulted in a greater need for custodial/laborer support to insure that the building is cleaned and restrooms serviced on a more frequent basis. The addition of two part-time custodial employees and funds for related supplies will provide the resources necessary to bring these buildings up to an acceptable level of cleanliness and maintain this level for the foreseeable future.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided primarily by an allotment to cover the salary and benefits costs of five employees (approximately \$89,000 in FY 1980 and in FY 1981) and to provide for the payment of the Trust fund share (approximately 40 percent) of the Smithsonian's annual Federal Telecommunications Network System and for the Trust fund share of rental costs for administrative units located in L'Enfant Plaza (\$480,000 in FY 1980 and \$510,000 in FY 1981). Special purpose funds represent the costs of operating the audiovisual unit. These costs are offset by user reimbursements. Also in FY 1979, the purchase of audiovisual equipment was financed by an allotment from the Institution's Collections Acquisitions, Research and Education Program.

TAB B

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

1979 Appropriation.....	\$3,700,000	}	Equivalent in Excess
1980 Appropriation.....	\$4,200,000		Foreign Currencies
1981 Estimate.....	\$4,450,000		

An appropriation of \$4,450,000, equivalent in foreign currencies which have been determined by the Treasury Department to be in excess of the normal needs of the United States, is requested for FY 1981. The appropriation will be used:

-- to continue a program of grants to United States institutions for field research in the program areas listed below in those countries where excess local currencies are available. Of the total \$3,700,000 requested for research, \$2,800,000 will be available for one-year funding of continuing projects; \$400,000 will support new projects; and \$500,000 will provide multi-year funding of projects for which assurance of funding continuity is important; and

-- for a second installment to the forward-funded reserve in support of future programs of the American Institute of Indian Studies (AIIS). An appropriation of \$750,000 equivalent in Indian rupees is requested. An amount of \$500,000 equivalent in Indian rupees was appropriated in FY 1980 to initiate this reserve fund.

Obligations of Funds by Program Area
(dollar equivalents)

	<u>FY 1979</u> <u>Actual</u>	<u>FY 1980</u> <u>Estimate</u>	<u>FY 1981</u> <u>Estimate</u>
Archeology and Related Disciplines	\$2,714,000	\$2,765,000 <u>/1</u>	\$3,000,000 <u>/1</u>
Systematic and Environmental Biology	405,000	705,000	761,000
Astrophysics and Earth Sciences	181,000	248,000	164,000
Museum Programs	98,000	304,000	295,000
Grant Administration <u>/2</u>	67,000	20,000	20,000
NSF -- Science Information Program (Translations) <u>/3</u>	<u>182,000</u>	<u>493,000</u>	<u>350,000</u>
Total	\$3,647,000	\$4,533,000	\$4,590,000

/1 Includes obligation for AIIS forward-funded reserve: FY 1980, \$500,000; FY 1981, \$750,000.

/2 Includes transfers to the State Department for "Foreign Affairs Administrative Support."

/3 Includes transfers to the NSF Science Information Program for translations.

PROGRAM OF GRANTS FOR FIELD RESEARCH

The purpose of the Smithsonian Foreign Currency Program is, like that of the Institution itself, "the increase and diffusion of knowledge." The Smithsonian Foreign Currency Program supports this purpose by making grants to United States universities, museums, and other institutions of higher learning, including the Smithsonian itself, primarily for research and advanced professional training in fields of traditional Smithsonian competence. An appropriation of \$3,700,000 equivalent in excess foreign currencies is sought for these grants. An additional \$750,000 equivalent in Indian rupees is sought to support the forward-funded reserve for the American Institute of Indian Studies. The funds requested particularly for this forward-funded reserve will be used for studies similar to those funded by the other grants, but will not be used until the current excess currencies in India are depleted.

The Smithsonian program is a major source of excess foreign currency support for research carried out by United States institutions in the excess currency countries. The Smithsonian program is distinguished from other Special Foreign Currency Programs in that the full responsibility for the design, execution and publication of research results rests with a scholar working within the program of a United States institution.

The Smithsonian program strengthens the research and training activities of collaborating institutions abroad, for most projects directly involve host country institutions and scholars. Enduring professional ties which result from such joint efforts and scholarly exchange contribute to the strongest form of United States cultural relations with other nations. Moreover, these ties contribute to the integration of the worldwide advancement of science which serves to narrow the gap between the industrial and the developing nations.

The Importance of Research in the Natural Sciences and Cultural History

The density of world population and the impact of technological development make it important to understand their effect on the natural environment and on society. Research sponsored by the Smithsonian in the natural sciences and in cultural history is aimed at improving understanding of the environment, of the management and protection of scarce resources, and the cultural setting within which social changes take place.

Grants awarded by the Smithsonian in systematic and evolutionary biology have contributed to the understanding of the individual and the surrounding environment. In FY 1979, grants supported the following projects of special interest:

- research involving 40 million-year old fossil finds in Burma pushes back the date of the earliest probable anthropoid primate by ten million years which adds to the speculation that the Southern Asian subcontinent is the place of origin of higher primates; and
- study of the nitrogen cycle of a mangrove estuary in western India, which provides criteria for managing this important system of buffers against shoreline erosion.

In astrophysics and earth sciences, contributions were made to the study of the earth and its management. For example:

- a geological investigation of quaternary deposits in the Nubian Desert, through which climatic changes can be identified and approximate dates of occurrence determined, is providing information which will help to predict future impact on land use and conservation.

Smithsonian grants in cultural history contribute to an understanding of the individual and society. In FY 1979, grants supported work which resulted in:

- the discovery of 18 thousand-year old barley in the Western Egyptian Desert which doubled the known age of agricultural cultivation;
- film documentation of disappearing ritual art forms in India, giving new insight to ancient cultural traditions and their modern day changes; and
- translation and study of popular Arabic narrative ballads which will make an important art form available to Western audiences.

The special role of museum programs in acquainting the people of one nation with the culture of another continued to be demonstrated in FY 1979 with Smithsonian support for exchange programs. For example, a museum specialist recently surveyed the national museum system of Guinea in order to initiate a program of professional museum exchanges.

The Importance of Multi-Year Grants

Since the inception of its Special Foreign Currency Program, the Smithsonian practice has been to provide funding on an annual basis for most of its grantees even though approved proposals are frequently of a multi-year nature. This has been done because until FY 1979 the Smithsonian appropriation was sufficient to allow for only occasional multi-year grants. (Multi-year funding is the standard practice of other Special Foreign Currency Program agencies.) Beginning in FY 1979 and continuing in FY 1980, with appropriations of \$3,700,000 equivalent in foreign currencies, multi-year funding of major programs on a regular basis has been possible. Such funding is important for several reasons. Rational planning requires the advance commitment of professors and graduate students as well as of facilities. The broad objectives of the participating institutions also depend on the coordination of such resources. Multi-year grants, with annual disbursement subject to a finding by Smithsonian advisory councils that satisfactory progress in the prior year has been made, are essential to provide reasonable assurance of funding to these institutions. Further, the Smithsonian has found it necessary to undertake multi-year funding on those occasions when it was essential to protect investments in successful projects against the possibility that some excess currency accounts would be exhausted. This happened in Poland and Tunisia in FY 1977 and is expected to happen again in Egypt no later than FY 1981.

Benefits to United States Institutions

Since the inception of the program in FY 1966, Smithsonian grants have been made to 207 United States institutions in 40 states and the District of Columbia to support more than 600 individual projects. Publications known to have resulted from program grants totalled more than 1,200 at the end of FY 1979.

Collections of original biological specimens and the archeological and ethnographic materials are acquired in the course of field research. They remain available for further study and interpretation by other generations of scholars long after the research teams supported by the Smithsonian have dispersed and their conclusions been published. More than 100 such research collections have been placed in United States universities and museums. A similar number of collections have been added to the research resources of the excess currency countries.

The benefits of the program have extended to a far larger number of institutions than the 207 United States institutions which have received grants directly. For example, three of the grantee institutions are consortia of United States scholarly institutions. They are the American Institute of Indian Studies (AIIS) in Chicago, Illinois, with 32 institutional members; the American Research Center in Egypt (ARCE) in Princeton,

New Jersey, with 26 institutional and approximately 600 individual members; and the American Schools of Oriental Research (ASOR) in Cambridge, Massachusetts, with 135 member institutions.

Smithsonian grants have supported the research in India of 298 AIIS fellows over the 12-year period from FY 1968 through FY 1979. The fellows were drawn from 43 United States institutions in 22 states. Program grants have also supported 54 ARCE projects over the 14-year period from FY 1966 through FY 1979, and since FY 1977 33 ARCE fellows have received Smithsonian support. Nine ASOR excavations in Israel and Tunisia provided research opportunities for more than 260 senior U.S. scholars and field training for more than 324 graduate students. The Indo-American Fellowship Program, initiated in FY 1977 under the auspices of the Indo-U.S. Subcommittee on Education and Culture has sent 26 scholars from U.S. institutions to India.

Scientific Review Under the Smithsonian Program

The Smithsonian program considers proposals from any qualified American institution for research in fields of traditional Smithsonian competence. The program seeks the advice of experts in the specific area of sciences to be studied in reviewing the proposals and annually convenes advisory councils of senior scholars from across the nation. Following the recommendation in the House-Senate Conference Report 95-1672 dated September 29, 1978, the National Science Foundation reviews the credentials of the members of the advisory councils and certifies their competence. The councils discuss and evaluate the proposals, taking into consideration the experts' opinions, and provide specific advice to the Smithsonian regarding the priority among and selection of proposals recommended for support.

Foreign currency awards to other institutions are executed as normal Federal contracts, with the American grantee institutions providing for full fiscal accountability. The Smithsonian audits each grantee's periodic financial reports and where grantees maintain records abroad, conducts site audits to ensure that appropriate accounting procedures are followed.

Whether funded originally on a multi-year or on a one-year basis, projects lasting more than one year are subject to an annual review of scientific progress by the advisory councils before another year of funding is approved. In addition, Smithsonian staff scientists and program advisory council members visit projects in the field when firsthand scientific reports are considered necessary. Smithsonian policy requires that grantees publish scientific results and that scientific collections be readily accessible to the scholarly community.

The Importance to the Smithsonian of Awards for Research

Access to funds for independent research is an essential factor in enabling the Smithsonian to attract and retain leading researchers and thereby to maintain a standard of excellence as a research institution. In this context, the Institution's initial request in FY 1966 for an appropriation of excess foreign currencies made it clear that Smithsonian scholars would compete for these funds. The appropriation justification in that year stated that the Institution would "...award and administer foreign currency grants...for maximum benefit of all participating institutions, as well as the Smithsonian." This appropriation has provided Smithsonian scientists an opportunity to pursue new and innovative research.

Under the Special Foreign Currency Program guidelines, Smithsonian proposals are reviewed by the same councils of distinguished scholars as are proposals from other

institutions. Continuing projects also are subject to annual reviews. (These processes are described above in the section entitled "Scientific Review under the Smithsonian Program.") The Special Foreign Currency Program awards to Smithsonian employees, as to other scholars, often involve participants from other organizations and universities as collaborators. No Smithsonian employee, nor any other grantee, receives personal compensation to duplicate or supplement his salary. Program awards cover only field research costs in the excess currency country and travel to that country.

The awards to Smithsonian employees are executed as normal Federal allotments to the individual bureaus of the Institution for the support of approved employee research projects. Such funds are expended in accordance with Federal procurement and personnel regulations.

FORWARD-FUNDED RESERVE FOR THE AMERICAN INSTITUTE FOR INDIAN STUDIES

Founded in 1961 by a consortium of 15 United States universities and colleges, the American Institute of Indian Studies' purpose is to promote American scholarship at the pre- and post-doctoral level on India in all recognized fields of the humanities and the social and natural sciences. Funding for U.S. administration is raised through dues paid by member institutions and from foundation grants from several sources. As of 1979 the number of consortium members has grown to 32 with about 100 fellows in India at any given time, in a variety of programs. Funding for research and local administration in India is primarily through the Smithsonian, with lesser amounts being contributed by the Office of Education (language teaching programs only), National Science Foundation (fellowships in specific disciplines), International Communications Agency (fellowships), and the Ford Foundation.

The Smithsonian and the AIIS share common purposes: education and scholarship, global intellectual understanding and the promotion of research. Research at the Institute takes several forms: individual research in any recognized field; joint projects such as the ones resulting in the publication of the Encyclopedia of India's Philosophies; long-term projects, one of which has been the continuing project at the Center for Art and Archeology at Benares which will make available an archive of photographs, largely of Indian temples and monuments, for students and the scholarly public; and language teaching programs, now given in five of the 14 major Indian languages.

Through its competitive grants program, the Smithsonian has provided annual funding to the American Institute of Indian Studies for fellowships, research, symposia and publications and for administrative costs. The Smithsonian has helped sustain this Institute and other American research centers abroad for more than a decade because of their significant contributions to scholarship and science without regard for national boundaries and their special service to American scholars conducting research.

While the amount of Indian currency available to the U.S. government is still large, it is a finite fund in inactive accounts. With inflation rates in India at a high level, it will probably disappear more quickly than had been anticipated in the past. Various estimates are offered for when this may occur; some suggest as early as five years hence. Since the end of "excess" currency status historically has happened suddenly, the Institution proposes to reserve funds for the AIIS to avoid a situation similar to the one which developed in Egypt. (In late 1978, funds for new American research in Egypt dried up suddenly, placing in doubt the future of American archeology and cultural history studies there and jeopardizing the continued existence of the very successful Cairo Center of the American Research Center in Egypt.)

By building a substantial foreign currency reserve fund now, the Smithsonian hopes to seize the opportunity to make AIIS financially secure on a long-term basis, and to encourage other such centers to make the effort necessary to develop funding from other sources for the period beyond that of support by the Smithsonian. Toward this end, for

FY 1981, the Smithsonian is seeking \$750,000 equivalent in Indian rupees to add to the reserve fund. An amount of \$500,000 in Indian rupees was appropriated in FY 1980 to initiate the fund. The reserve is to be maintained intact, until such time as the depletion of the United States Indian rupees account causes its removal from the "excess" currency list.

Long-term support for the AIIS is feasible and highly desirable. As a result of its long relationship with the AIIS, the Smithsonian has confidence that the mutually acceptable and beneficial working relationship can be continued. The AIIS is a very viable organization, standing in high regard with the Indian Government and the scholarly community.

Future requests are anticipated in succeeding fiscal years aimed at bringing the fund to a level capable of supporting basic AIIS activities for five years after the rupee is declared to no longer be "excess." In each fiscal year the funds will be obligated to AIIS but will not be made available for use until the end of the "excess" designation. Until that time the AIIS will continue to compete for Smithsonian grant funds as they do now and given their past history of success can be expected to receive continued support. A system of annual scholarly and financial review will be developed for the administration of the reserve fund.

OBLIGATIONS OF FUNDS BY COUNTRY
(dollar equivalents)

	<u>FY 1979 Actual</u>	<u>FY 1980 Estimate</u>	<u>FY 1981 Estimate</u>
Burma	\$ 4,000	\$ 35,000	\$ 50,000
Egypt	1,398,000	800,000	375,000
Guinea	1,000	8,000	10,000
India	1,951,000 <u>/1 /2</u>	3,280,000 <u>/1 /2 /3</u>	3,720,000 <u>/1 /2 /3</u>
Pakistan	293,000 <u>/2</u>	410,000 <u>/2</u>	435,000 <u>/2</u>
Total	<u>\$3,647,000</u>	<u>\$4,533,000</u>	<u>\$4,590,000</u>

/1 Includes transfers to the State Department for "Foreign Affairs Administrative support."

/2 Includes transfers to the NSF Science Information Program for translations.

/3 Includes obligation for AIIS forward-funded reserve: FY 1980, \$500,000; FY 1981, \$750,000.

STATUS OF SMITHSONIAN SFCP FUNDS
(dollar equivalents)

	<u>FY 1979 Actual</u>	<u>FY 1980 Estimate</u>	<u>FY 1981 Estimate</u>
Unobligated Balance, Start of year	\$ 60,000	\$ 333,000	\$ 100,000
Appropriation	3,700,000	4,200,000	4,450,000
Recovery of Prior Years' Obligations	220,000	100,000	100,000
Unobligated Balance, End of year	<u>-333,000</u>	<u>-100,000</u>	<u>-60,000</u>
Total Obligations	<u>\$ 3,647,000</u>	<u>\$4,533,000</u>	<u>\$4,590,000</u>

TAB C

FACILITIES PLANNING, RENOVATION,
RESTORATION, AND CONSTRUCTION

FACILITIES PLANNING, RENOVATION, RESTORATION, AND CONSTRUCTION

<u>Account</u>	<u>Summary</u>		
	FY 1979	FY 1980	FY 1981
	<u>Appropriation</u>	<u>Appropriation</u>	<u>Estimate</u>
Construction and Improvements, National Zoological Park	\$ 3,900,000	\$ 6,250,000	\$ 3,290,000
Restoration and Renovation of Buildings	2,100,000	5,250,000	8,839,000
Construction: Museum Support Center	575,000	20,600,000	--
South Quadrangle Development Planning	--	--	500,000
Totals	\$ 6,575,000	\$32,100,000	\$12,629,000

The FY 1981 appropriation request for Construction and Improvements at the National Zoological Park will be used to continue to make progress on the implementation of the approved Master Plan for the improvement of the animal and public facilities and to perform essential renovation, repair and improvement projects at the Rock Creek Park Zoo and at the Conservation and Research Center in Front Royal, Virginia. The Master Plan development scheduled for FY 1981 consists of construction of a Monkey Island exhibit which would complete the series of construction projects in the central area of Rock Creek Park. Zoo funds also are sought to build the small mammal breeding portion of a delicate animal facility and to design hardy bird yards at the Front Royal Conservation and Research Center. Resources are included for necessary restoration and renovation work both at Rock Creek and Front Royal.

The Restoration and Renovation of Buildings appropriation request consists of repairs to facades, roofs and terraces of various historic and monumental buildings; the upgrading, including planning and installation, of fire detection and suppression systems; the provision of improved access for the disabled, and the correction of conditions that could be hazardous to the safety and security of the visiting public, staff, and the collections; repairs and improvements to utility systems in several museum and collections storage buildings, including heating, ventilating and air conditioning systems and plumbing and electrical systems; improvements in support of programmatic objectives, mainly at the Smithsonian's outlying facilities; and general repairs and improvements that are required for a variety of purposes.

Finally, appropriated funds sought in FY 1981, combined with the Institution's nonappropriated Trust funds, are designated to sustain the planning and design activities for proposed new facilities in the South Quadrangle. The South Quadrangle consists of an area of approximately 4.2 acres and is located between the Smithsonian Institution Building and Independence Avenue. The facilities will house a new center for the exhibition and study of Asian art, the Museum of African Art, central library and rare book needs, and underground administrative, support and parking requirements.

Justification for these programs and projects appears in the following sections.

CONSTRUCTION AND IMPROVEMENTS,
NATIONAL ZOOLOGICAL PARK

1979 Appropriation.....	\$3,900,000
1980 Appropriation.....	\$6,250,000
1981 Estimate.....	\$3,290,000

This appropriation is for use at the National Zoological Park to fund repairs, alterations and improvements to existing facilities, including exhibits, to prepare plans and specifications for construction and to perform renovations, restorations and new construction for implementing the Master Plan approved by the Commission of Fine Arts and the National Capital Planning Commission in FY 1973. Construction and improvement work is accomplished primarily by contract except in instances when suitable contractors cannot be located or their estimates are above accepted costs in relation to the proposed job. In such cases, accomplishment of the work by other means, such as the purchase of supplies, materials and equipment and/or the use of current staff or temporary labor, is the most economical alternative. Furthermore, it is occasionally necessary to fund other expenses from this account, particularly those associated with the displacement of animals as a result of the construction program or major grounds maintenance in repair of storm damage.

The requested FY 1981 appropriation will be used as follows:

Central Area Construction	\$1,840,000
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Renovations, Repairs and Improvements:

National Zoological Park - Rock Creek	450,000
Conservation and Research Center - Front Royal	<u>1,000,000</u>
Total	\$3,290,000

Status of Construction Program: The Master Plan - The National Zoological Park has been undergoing major renovation and improvement over the past several years through implementation of the Master Plan. With the transfer of selected and critical animal breeding functions to Front Royal, the elimination of costly projects and the scaling down of others, the total Rock Creek renovation program has been reduced from an original plan of 41 major projects, with a cost estimated at \$118,000,000 to 30 projects and a current estimate of \$61,200,000. The National Zoo is more than halfway through its construction program, a plan which will make the Park among the world's finest zoos. The funds appropriated to date have been spent on 21 new exhibits and support facilities either completed or under construction. Construction of the Great Ape Facility will be completed in the spring of 1980. This exhibit will provide a fully controlled environment featuring interior glass-fronted habitat spaces and spacious exterior yards for the orangutans and gorillas. Approximately \$25 million will be required in future years to complete a number of additional projects. Accomplishments and planned projects are shown on the table on page C-5.

Central Area Construction - To ensure an orderly development program with minimum disruptions to animals and visitors, construction projects around the periphery of the Park were accomplished first. A cluster of projects are underway or have been completed in the so-called "Central Area," including the Great Ape House, the renovation of the Reptile House and the Crocodile Exhibit. These last two are underway with funds appropriated in FY 1980. Funds requested in this budget will permit the completion of the final project in the development of the Central Area, the Monkey Island exhibit. This exhibit will have both indoor and outdoor space for the animals which will be designed to approximate closely the animals' natural habitat. This type of exhibit, which is a grand attraction at many zoos, will be the first of its kind at Rock Creek. A moat will serve as a containment barrier and the entire area will be fully landscaped and improved with new walks and graphics.

This project is proposed for FY 1981 as a result of some revisions in the Master Plan schedule, reported to the Congress early in January 1980. The FY 1980 plans for Rock Creek had called for the Monkey Island exhibit development, the partial renovation of the Reptile House, the Small Mammal Building renovation and the Aquatic Habitats design. The Smithsonian now plans to defer the Monkey Island development to FY 1981, so that the entire Reptile House can be renovated, including the basement which will become the Nocturnal Exhibit, and the adjacent Crocodile Exhibit can be constructed in FY 1980. The Small Mammal Building renovation and the Aquatic Habitats design will go forward in FY 1980 as scheduled. These revisions were recommended upon a critical analysis by the NZP of its plans for FY 1980. The review findings indicated that it would be more logical to construct the Crocodile Exhibit and renovate the entire Reptile House at one time so that the bidding process could be consolidated, one set of construction plans and quantity estimates could be developed, and the supporting utility systems could be constructed. There is also a considerable advantage to having the area disturbed only once rather than twice. The costs of all the projects at Rock Creek Park for the two fiscal periods would remain the same.

Renovations, Repairs and Improvements: Rock Creek - An amount of \$450,000 is requested to continue a program of renovation, repair and preventive maintenance of existing facilities at Rock Creek. There are over 60 facilities of varying ages at the Zoo's Rock Creek location, and 160 acres of land containing over 18 miles of heavily used paths and roadways. The funds would be used to complete necessary tasks in mechanical, electrical, plumbing and support systems; grounds, path and roadway repairs; animal support and housing repairs; and temporary relocation of animals. This funding request is necessary to support the repairs and renovations necessary to maintain these facilities in safe and functioning order. Particular projects include roadway repair for the convenience and safety of the visitors, roofing replacement and repair, central boiler plant repair, painting to prevent corrosion and general landscaping and maintenance.

Front Royal Development - The balance of \$1,000,000 requested in this appropriation is to be used at the National Zoological Park's Conservation and Research Center in Front Royal, Virginia. These funds are requested to accomplish the work necessary for continuing animal breeding programs and to permit the Center to accelerate its development program so that it can complement the development at Rock Creek Park.

As the Zoo's construction program was reviewed, a few revisions were incorporated in the Front Royal development plan as well as in that for Rock Creek. In FY 1980, the Institution proposed a plan which called for the phased construction in FY 1980 and FY 1981 of both the Delicate Animal Facility (then called the Small Mammal and Bird Breeding Complex) and the Hoofed Stock Barns. In addition, the Smithsonian planned to undertake the first phase of construction of the Hardy Bird Yards in FY 1981. The revised plan for FY 1980 calls for the design of the Delicate Animal Facility, the entire construction of the Hoofed Stock Barns, the development of a Master Plan for the entire Conservation and Research Center and general repairs and renovations. As a result of these changes the planned projects for Front Royal in FY 1981 are the:

Delicate Animal Facility (\$580,000) - The complex will provide an additional breeding capability for delicate species that need intensive care. It will also allow the Zoo to expand its breeding of animals which do not adapt well to urban conditions. The small mammal breeding has been conducted at Rock Creek but must be transferred to Front Royal as a result of the decision to renovate the original Monkey House (as opposed to constructing a new one). The design for this facility is being completed with funds appropriated in FY 1980. The part of the complex to be used for small mammal breeding will be constructed with funds requested in this budget. Funds to complete the rest of the complex will be requested in FY 1982 and FY 1983.

Hardy Bird Yards (\$40,000) - These yards, which will be designed with funds requested in this budget, will form a series of basic flight and roosting shelters for breeding of endangered hardy birds. Such birds as pheasants, waterfowls and rails, which are tolerant

of Virginia weather, will be bred here. Funds for construction, estimated at \$640,000, will be requested in future years.

Miscellaneous Renovations and Repairs (\$380,000) - Many of the old structures at Front Royal are badly deteriorated and in need of major repairs. Funds requested here will be used to upgrade these structures by performing repairs to the electrical wiring and the plumbing and ventilation systems. Funds are also needed to continue a program of road and pathway renovation. Road resurfacing and grounds improvements permit easier access for the security patrols necessary to ensure the safety of the Center's animals.

(Dollars in thousands)

NATIONAL ZOOLOGICAL PARK
Construction Program
1974-1985

Estimates include cost
escalation to March, 1981

Activity	1974-79	1980	1981	1982	1983	1984	1985	Repro- gramming	TOTAL
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I. Master Plan

Lion-Tiger Facility	3,000 ^{/1}								3,000
Elephant/Bird House	3,130							+26	3,156
Education-Administration Building	2,500							-157	2,343
General Services Facility	7,000							+834	7,834
Parking Facility							250 ^{/2}		250
Lower Rock Creek Valley	3,000							-1	2,999
Beaver Valley Area	6,410							-335	6,075
Central Area	4,250	4,300	1,840					-360	10,030
Waterfowl Pond and Small Cats	520							-15	505
Aquatic Habitats		500		6,000	3,300				9,800
Health & Research Hill (incl. Holt House Renovations)				200	2,000	1,000			3,200
Master Graphics	200			100				+1	301
Entranceway & Olmsted Walk Exhibits					200	2,000	1,000		3,200
Subtotals	30,010	4,800	1,840	6,300	5,500	3,000	1,250	-7	52,693 ^{/5}

II. Renovations, Repairs & Improvements

Rock Creek Conservation & Research Center	2,830 ^{/3} 3,180 ^{/3}	400	450	500	600	600	600 ^{/4} 3,070 ^{/4}	+7	5,987
GRAND TOTALS	36,020	6,250	3,290	7,770	7,400	5,350	4,920	-	71,000

^{/1} Excludes \$275,000 for planning appropriated in FY 1973.

^{/2} Citizen participation through parking revenues will contribute \$2,000,000 or more to the estimated construction cost of \$8.5 million by FY 1986.

^{/3} Excludes \$125,000 appropriated in FY 1975 under Restoration and Renovation of Buildings Account.

^{/4} In subsequent years major repairs and maintenance will require \$650,000 at Rock Creek and \$450,000 at the Conservation and Research Center.

^{/5} The current total estimated cost for the Master Plan is \$61.2 million. This includes the construction of the parking facility. See footnote 2.

RESTORATION AND RENOVATION OF BUILDINGS

1979 Appropriation.....	\$2,100,000
1980 Appropriation.....	\$5,250,000
1981 Estimate.....	\$8,839,000

The Smithsonian's facilities consist of 12 museum and gallery buildings in Washington, D.C. and New York City housing research and collections management activities and a wide range of exhibitions in the fields of science, history, technology and art. These facilities range in age from five to well over 100 years old. In addition, the Institution operates and maintains the preservation, storage, and air and spacecraft display facility at Suitland, Maryland; centers for biological research, conservation and education in Panama and on the Chesapeake Bay near Annapolis, Maryland; a center for astrophysics in Cambridge, Massachusetts; and an observatory on Mt. Hopkins in Arizona. This account is used to fund repairs, alterations and improvements of a long-term nature and benefit to these facilities, which have a replacement value of several hundred million dollars. (The repairs and renovations at the National Zoological Park are presented separately in this budget submission.) Work is conducted primarily by contract, except when suitable contractors cannot be located or when accomplishment of the work by some other means is the most effective and economical solution (such as the purchase with funds made available from this appropriation of supplies, materials, and equipment, and the use of staff or temporary labor). Facilities planning, design and other studies may also be funded from this account, as may be the construction of major and minor additions and new temporary or minor permanent buildings.

Substantial work is required to keep Smithsonian facilities in good repair. This is essential for several reasons, perhaps the most significant being the importance of the physical plant to the achievement of Smithsonian goals. Museums should be places where visitors derive pleasure from viewing the collections and learning about what they symbolize or what they can tell us about our own history. Museums can be vital and dynamic institutions which communicate knowledge in a lively and enjoyable manner. In order to promote this sense of excitement, however, the physical condition of the given museum must be good. No matter how well presented the exhibit, if its environment is unpleasant or unhealthy, its effectiveness will be substantially decreased or lost.

The proper care and protection of the National Collections are, of course, crucial reasons to maintain properly the Institution's facilities. The Smithsonian's legal responsibility to serve as the official repository of the National Collections (20 U.S.C. 41, et seq.) does not mean the Institution merely accepts and stores art objects, natural specimens and artifacts. They must be properly conserved. This means their environment must be safe. The collections can be irreparably damaged by inadequate environmental control.

The environment must be stabilized so that the millions of objects in the collections do not become damaged. A constant temperature and relative humidity must be maintained in order to protect museum artifacts properly. If the relative humidity changes, organic substances, such as wood, paper and fabrics, change dimensions. For example, the fibers in woven textiles will begin to rub against each other as they expand or contract and eventually wear themselves down, destroying the material. This is true of material in good or poor condition, although the older the object the more likely is the deterioration. The Star Spangled Banner, for instance, came to the Smithsonian in very bad condition--literally worn to tatters--and now must be kept in a specially controlled environment. In general, if the humidity increases to very high levels, mold can begin to grow and eat away the substance or deposit colored matter in it. If the humidity drops to too low a level, the material can become brittle and break. Light levels also affect organic substances; too much can cause serious deterioration. In paintings, for example, excessively intense or prolonged exposure to light can lead to faded colors, discolored varnishes, weakened and

broken fibers and embrittled paper. Inorganic materials are also subject to deterioration. Metal, for example, will corrode if it is exposed to too much dust, which contains acidic salt, or to sulfur dioxide which can be found in polluted air. As a result of these detrimental conditions, stringent requirements are imposed on collections management procedures. The heating, ventilating and air conditioning systems therefore must work as well and as efficiently as possible. In the older buildings, which were not designed with the sophisticated equipment necessary to meet these needs, the systems need to be completely replaced; in other buildings they need to be repaired and improved.

Visitor and staff safety and security also demand that the facilities are in proper repair. The Occupational Safety and Health Act of 1970 (29 U.S.C. 651 et seq.) requires that all employers conform their work places to certain safety and health standards for the protection of their employees. Fire detection and suppression equipment must be upgraded and modernized in order to provide the level of protection consistent with today's technology. Sprinklers, smoke detectors and fire doors are needed and egress must be improved in older buildings to meet the requirements of a greater number of visitors. The importance of dependable and comprehensive fire protection coverage cannot be overemphasized. Health, safety and security considerations also present the need for altering buildings. Asbestos insulation must be contained or removed and, if necessary, replaced with substitute insulation materials. Safety ladders and platforms must be installed in equipment rooms in several buildings, and better lighting is needed outside other buildings for improved security.

Greater awareness and attention to the needs of disabled persons, as reflected in the enactment of recent legislation, have resulted in the establishment of additional requirements for all of the Institution's facilities in order to make them more accessible to all visitors and staff. These requirements are met in new exhibits and construction projects; however, most facilities still require modifications to meet the established standards. The Hirshhorn Sculpture Garden, for example, is being renovated to provide easier access for the disabled into and within the Garden. Furthermore, electrical, mechanical and plumbing systems must be maintained and repaired as must facades and roofs. When these are in a state of disrepair they pose hazardous environments for both the staff and visitors as well as for the collections.

Finally, new program objectives or research needs at the Smithsonian's outlying facilities present additional requirements for repair and renovation work. These must be met to provide the efficient operation and appropriate support of the programs at the various research bureaus. By maintaining and developing the facilities, the Smithsonian can continue to provide leadership in several major fields of study.

The Institution's Five Year Prospectus identifies specific categories of work which are estimated to cost approximately \$49 million between FY 1981 and 1985. The FY 1981 request of \$8,839,000 represents an increase of \$3.6 million over the FY 1980 R&R appropriation and emphasizes the Institution's commitment to establish an adequate level of annual funding for this account in consideration of the size, diversity, age, historical character, and condition of the Institution's facilities.

The justification for this year's budget request follows:

1. General repairs and improvements*	\$ 337,000
2. Facade, roof and terrace repairs	3,465,000
3. Fire detection and suppression systems	1,105,000
4. Access for the disabled safety and security and correction of hazardous conditions*	770,000
5. Utility systems repairs and improvements*	1,777,000
6. Other projects*	<u>1,385,000</u>
Total	\$8,839,000

*The subtotals shown for these categories differ from the subtotals for FY 1981 as included in the Institution's Five Year Prospectus, FY 1981 - FY 1985, which was prepared before the budget submission. The individual R&R projects in both documents are identical; the subtotal changes merely reflect a recategorization of individual projects, which is intended to present the same needs more clearly. The total amount requested is the same in both documents.

GENERAL REPAIRS AND IMPROVEMENTS (\$337,000): Funds requested in this category support projects that do not lend themselves to discrete categorization, as well as minor emergency repairs, such as equipment failures or structural defects that cannot be anticipated, arising from heavy use, extreme weather conditions, or other circumstances. Examples of projects in this category are interior repairs to floors, ceilings, partitions, doors and building hardware; space renovations which would create additional or more effective space for program activities; office modifications, including refinishing, to support program changes; renovations of exhibition and other public space; repairs to roads and walkways; elevator and escalator repairs; and lighting improvements. For FY 1981, an amount of \$337,000 is requested to accommodate emergency needs and to fund the following specific projects: repair of cracked terrazzo floors in the Natural History Building; continued lighting improvements at the Freer Gallery; repairs to the wrought iron fence at the Cooper-Hewitt Museum; parking lot paving at the Anacostia Neighborhood Museum; and essential repairs at the Museum of African Art. Additionally, window locks and gaskets in the east and west wings of the Natural History Building must be replaced in order to eliminate leaks and to assure that the 884 windows can be maintained and operated properly; this project will result in energy savings.

FACADE, ROOF AND TERRACE REPAIRS (\$3,465,000): Maintaining the integrity of the exteriors of all Smithsonian buildings is critical to prevent major structural damage and deterioration due to age and weathering, and to ensure a safe environment for visitors, staff and collections. Energy conservation also demands water and weathertight exteriors. Work in this category includes a variety of major projects that must be accomplished periodically, according to the life cycles of the materials used. For example, roof replacements are needed about every twenty years; recaulking and repointing facades, every ten years; and exterior painting, every five years. Deficiencies that fall under this category have become apparent in some of the Institution's newer buildings and must be corrected. Large-scale renovations are required for several of the older buildings. In addition to these major projects, a regularly scheduled program of maintenance and repairs to protect building exteriors, including window components, must be funded annually.

One of the major projects for which funds are requested in this year is the replacement of the exterior stone facade of the Renwick Gallery. This work was first undertaken in

FY 1968 under the auspices of the General Services Administration (GSA). In FY 1976, the coping and exterior roofing materials, used by GSA, began to crack, and pieces of the coping fell, creating an obvious danger to public safety. Funds appropriated in FY 1978 and FY 1979 (\$300,000) were used to construct a covered pedestrian walkway adjacent to the building, to perform temporary repairs and to produce architectural and engineering studies, and to experiment with alternative methods in order to provide an acceptable and permanent solution. As a result, precast concrete has been selected as a replacement for the deteriorated natural stone facade. Precast concrete is judged to be the most economical solution, and will produce a facade of acceptable quality and durability, while maintaining the Gallery's original appearance in both color and texture. Based on complete detailed measured drawings and specifications, funds, appropriated in FY 1980 for the restoration of the Renwick facade (\$600,000), will be used to build both full-scale models of the stonework and molds for concrete castings and to begin removing and replacing the stones. For FY 1981, an amount of \$1 million is requested to continue this restoration process. Additional funds for the completion of the project, approximately \$1,500,000 will be requested in future years. The total cost for temporary corrective measures, planning, design and construction is estimated at approximately \$3.4 million.

An amount of \$1 million is requested to continue the renovation of the roof and exterior of the 99-year old Arts and Industries Building in order to ensure water-tightness, energy efficiency and the protection of work already accomplished. An amount of approximately \$1,250,000 was appropriated in FY 1977 and FY 1978 for the first phase of exterior renovation work; these funds were applied toward replacing the roof of the courts, four halls and rotunda; replacing some gutters and downspouts; selected recaulking and repointing in the most deteriorated areas; and other related repairs. With funds appropriated in FY 1980 (\$225,000) the necessary analysis, documentation, cost estimation and detailed designs and specifications will be undertaken in order to provide a phased program for accomplishing the remaining work. This includes such major projects as completion of the roof replacement, about 50 percent of which has already been accomplished; continued replacement of gutters and downspouts; extensive repairs and replacements of window components, including frames, sashes, glazing, painting and weatherstripping; and repointing and recaulking the facade. The \$1 million requested in FY 1981 will support the next phase of this work. An estimate of the balance of funds required for completing the exterior renovation will be available upon conclusion of the FY 1980 professional services contract and will be requested in future years.

The facade and terrace of the National Air and Space Museum (NASM) require a variety of repairs and improvements in order to eliminate water leaks and intrusions that have developed since the building was completed in 1975. During FY 1980, architectural engineering services will be contracted to investigate in detail the sources of the problem and to develop a phased program of corrective measures, including related cost estimates. Corrective measures for the facade are expected to include recaulking, repair or replacement of some of the marble stones and flashing, reinsulation of ductwork to prevent condensation between exterior and interior walls, and waterproofing of coping. Leaks are evident at all drains on the terrace, and the pavers have cracked, chipped and settled as a result of extremely heavy pedestrian traffic and weathering. The steps are irregular and prone to retain ice in cold weather, resulting in a tripping hazard. Breaches in the waterproof membrane beneath the terrace surface have caused water to leak into the garage below. Renovation of the terrace is expected to include reconstructing the waterproof membrane, upgrading other subsurface materials and replacing the existing pavers with a more durable material. For FY 1981, an amount of \$650,000 is requested to begin a phased program of correcting existing deficiencies in the NASM facade and terrace. A cost estimate for the total scope of work will be available upon conclusion of the study and design phase.

The roof of the Fine Arts and Portrait Gallery Building was last replaced as a part of the major renovation of the building, conducted between 1965 and 1968. The roof installed at that time has developed leaks beyond the point of reasonable patching and repair. Funds appropriated in FY 1979 (approximately \$245,000) were applied toward the first phase of

roof replacement. An amount of \$350,000 is requested to complete this project. The new, durable roof is expected to last for more than twenty-five years, and by providing increased insulation, will contribute significantly to energy conservation.

An amount of \$320,000 is requested to complete the phased program of repairing the terrace of the History and Technology Building. The terrace serves as both a pedestrian walkway around the building and as the roof to the finished interior basement. General deterioration of the waterproof membrane under the paving material, aggravated by possible design or construction deficiencies in the original terrace, has resulted in extensive and damaging water leakage into work, collections storage and exhibit areas. The remaining repair work, which is required on the west side of the building, includes completing the removal and replacement of the concrete slabs and waterproof membrane. The estimated cost of the entire phased program, including the FY 1981 request of \$320,000, is approximately \$1,070,000.

An amount of \$105,000 is requested to recaulk and repoint the facade of the History and Technology Building. This maintenance project, which has not been accomplished since the building was completed in 1964, is needed to eliminate existing facade leaks and to prevent further deterioration.

Finally, an amount of \$40,000 is requested for routine roof maintenance needs of buildings at the Silver Hill facility.

FIRE DETECTION AND SUPPRESSION SYSTEMS (\$1,105,000): The Institution is continuing to develop detailed plans for repairing and upgrading detection and suppression systems in all buildings that are inadequately protected in order to provide a level of safety consistent with today's standards and technology. The implementation of these plans includes the installation of heat and smoke detection systems; sprinkler and chemical suppression systems; fire doors and walls; and the improvement of exit capability, particularly in older buildings, in order to meet requirements necessitated by greater numbers of Smithsonian visitors. Improved systems are installed as exhibits change, and fire retardant materials are used wherever possible as well.

The Museums of Natural History and History and Technology represent the largest areas with the least protection, and an effort will be made to correct major deficiencies in these buildings by FY 1985. A comprehensive study of existing conditions and requirements at the Natural History Building, and a master plan for needed fire protection improvements were completed during FY 1979. During FY 1979 and FY 1980, an amount of approximately \$675,000 was designated for the installation of a sprinkler system, primarily in the building's west wing, and for the installation of control and alarm systems. For FY 1981, an amount of \$400,000 is requested to continue this work; it is anticipated that an additional amount of approximately \$2.4 million will be required for this purpose through FY 1985.

During FY 1979 and FY 1980, appropriated funds in the amount of approximately \$157,000 have been applied toward the development of a similar fire protection master plan for the History and Technology Building. An amount of \$265,000 is requested for FY 1981 to begin the major installation of smoke detection, sprinklers, fire doors and other related equipment. The entire work needed at this facility is estimated to cost approximately \$3.0 million through FY 1985.

For the original Smithsonian Institution Building, an amount of \$150,000 is requested to complete the installation of a smoke detection system. This project will conclude the major portion of this building's fire protection program.

During the 1960s and early 1970s the prefabricated metal buildings at the Silver Hill facility were constructed and used as warehouse and collections storage space. Due to the Institution's pressing need for additional space, these buildings today are used to house restoration shops, exhibits of air and spacecraft and full-time staff activities, in

addition to valuable collections. Consequently, the requirement to improve fire protection capabilities has become more critical. An amount of \$250,000 is requested to make significant progress in protecting the buildings at Silver Hill from fire.

For the Freer Gallery of Art, an additional amount of \$40,000 is requested for the installation of smoke detectors in the basement corridors, exhibit galleries and attic levels. It is anticipated that these funds will be adequate for the completion of the Freer's smoke detection system. Funds for the design and installation of a fire suppression sprinkler system will be requested in future years.

ACCESS FOR THE DISABLED, SAFETY AND SECURITY AND CORRECTION OF HAZARDOUS CONDITIONS (\$770,000): New requirements, legislated to assure the accessibility of facilities to all are being met in new exhibits and construction projects. Significant progress is being made in eliminating barriers; however, most facilities still require additional modifications to meet established standards. During FY 1980, projects undertaken to meet these standards include restroom modifications at the Renwick Gallery and the Fine Arts and Portrait Gallery Building (FAPG); the installation of a lift in the Museum of History and Technology and an elevator in FAPG to achieve accessibility to all exhibits areas; the design and initial alteration of two main exterior entranceways at the Smithsonian Institution Building and the Freer Gallery; and the continuation of the major modification to provide access for the disabled into and within the Hirshhorn Sculpture Garden. Funds appropriated in FY 1979 and FY 1980 (approximately \$395,000) are being applied toward the construction of a system of ramps to provide access for disabled persons to all levels of the Garden.

For FY 1981, an amount of \$202,000 is requested to accomplish similar types of improvements, including modifications of restrooms at the Natural History and History and Technology Buildings; installation of a lift in the "Gunboat Philadelphia" exhibit and a curb cut at the north entrance, both at the History and Technology Building; and the continuation of the Hirshhorn Sculpture Garden modifications, which involve resurfacing the Garden with a more stable material for improved mobility, improving the lighting system, and improving related mechanical and electrical work.

The safety and security of collections, visitors and staff also demand facilities modifications. An amount of \$318,000 is requested for the following projects: installation of ladders and platforms to allow maintenance personnel safe access to operating equipment in the National Air and Space Museum and the Natural History and History and Technology Buildings; walkway repairs and renovation at the Cooper-Hewitt Museum to eliminate tripping hazards; refrigeration of a trashroom at the National Air and Space Museum to eliminate rodent problems and unsanitary conditions; installation of security doors to improve protection of one of the buildings at the Silver Hill facility used for the storage of valuable collections; strengthening of window mullions at the History and Technology Building to prevent glass breakage under high wind conditions; and security lighting improvements for Mall museums.

An additional amount of \$250,000 is requested to begin the first major phase of removing or containing exposed asbestos insulation which is located in a large number of areas within the Institution's buildings, and which has been identified as a potential health hazard. This project is estimated to cost approximately \$1.0 million by FY 1985.

UTILITY SYSTEMS REPAIRS AND IMPROVEMENTS (\$1,777,000): Funds appropriated in this category are used to maintain, repair and modernize the heating, ventilating and air conditioning systems (HVAC) and plumbing and electrical systems in the Institution's facilities. Proper maintenance and improvements of these systems are essential for providing stable temperature and humidity conditions to prevent damage to the collections and for increasing energy efficiency. Scheduled repairs and replacements of deteriorated equipment components require a consistent level of funding, and a number of major renovations are required in the older buildings, where utilities systems were not designed with the aid of today's energy-saving technologies.

Currently, temperature and humidity conditions in the Arts and Industries Building are difficult to control, and the building uses energy inefficiently. An amount of \$500,000 is requested to design all necessary improvements and to begin renovation. Improvements will include the installation of an energy-conserving system to provide outside air to interior portions of the building in order to help regulate the Building's temperature; the addition of reheat coils, which are currently lacking, to control temperatures; the modification of controls on the air handling units that serve the first floor and halls; and the addition of new steam humidifiers. Funds for the completion of the HVAC renovation, which is estimated to cost an additional \$500,000, will be requested in future years.

Detailed designs and specifications for a comprehensive renovation of the HVAC system at the Freer Gallery of Art are complete. Funds appropriated in FY 1980 (\$64,000) are being used for construction of a new chilled water supply system for the Freer which will extend the existing system at the Arts and Industries Building. For FY 1981, an amount of \$300,000 is requested for the first major construction phase of the Freer's HVAC system renovation, including the upgrading of electrical switchgear. Funds for completion of the project (approximately \$400,000) will be requested in future years.

At the History and Technology Building, an amount of \$200,000 is requested to replace eleven air handling units; these units, which were installed during original construction of the building in the early 1960s, are badly deteriorated. An additional amount of \$100,000 is needed for the first phase of replacing the chilled water and condenser pumps and related motor control center switchgear, also part of the Building's original equipment. By reducing energy consumption, this project is expected to pay for itself through utilities cost savings within two years.

An amount of \$227,000 is requested to design an improvement program, to begin construction of modifications that will allow for control of temperature, humidity and air circulation in the Natural History Building and to improve energy efficiency. An additional amount of \$450,000 is requested for the following projects: improvements to mechanical and electrical systems in the building at the Silver Hill facility, which houses a portion of the National Museum of History and Technology collection, including the installation of additional insulation which also will correct the existing problem of exposed asbestos insulation; steam station repairs at the Smithsonian Institution Building, the History and Technology Building and the Freer Gallery; electrical system repairs at the Hirshhorn Museum, the Fine Arts and Portrait Gallery Building and the Natural History Building; and plumbing repairs at the Air and Space Museum and History and Technology Museum Buildings.

OTHER PROJECTS (\$1,385,000): This category has been established in order to group projects that support the maintenance and development of the Institution's outlying facilities and other projects designed to meet programmatic objectives in the areas of research, conservation and education. An amount of \$1,385,000 is requested.

-- Mt. Hopkins, Arizona, Observatory Site Development (\$500,000): An amount of \$500,000 is requested to begin development of a new base complex for the Mt. Hopkins Observatory (\$400,000) and to continue road improvements (\$100,000).

Located approximately twenty miles from the mountain facilities that it supports, SAO's existing base complex includes administrative offices; shipping, receiving and staging areas; vehicle maintenance and pooling facilities; areas for storing equipment and supplies; a public information office; and technical support facilities. Since 1967, this complex has occupied the building and grounds of the former Amado Elementary School. This property, which is leased from the Santa Cruz School District, will not be available for lease to the Observatory beyond June 1982. Plans call for the relocation of the complex and construction of new buildings to accommodate existing functions and to provide a new visitor center. For FY 1981, an amount of \$400,000 is requested to begin the phased development program by constructing a vehicle maintenance facility. This facility will provide repair bays, machine shops, a fuel storage area, offices, and a parking area for vehicles, including

many pieces of heavy equipment. Negotiations are underway with the U.S. Forest Service and the State of Arizona for the selection of a suitable site, which would be closer to the mountain. It is anticipated that trailers will be used to provide temporary quarters for administrative and supporting services while the site is under development.

An amount of \$100,000 is requested to continue the multi-year program to improve and maintain the hazardous, single-lane access road built in 1967. For FY 1981, safety improvements include continued insloping, realignment of severe curbs, installation of additional culverts to improve drainage and installation of guard rails. Additionally, routine grading and removal of obstructions in existing culverts are essential for the proper maintenance of the rugged, unpaved road.

-- Smithsonian Tropical Research Institute Improvements (\$325,000): An amount of \$325,000 is requested for modifications to a maintenance and storage building on Naos Island in order to provide space for the relocation of the Coral Ecology Laboratory (\$150,000); for repairs and improvements at Barro Colorado Island (\$150,000); and for architectural engineering services to plan future development at the Tivoli site (\$25,000).

The existing Coral Ecology Laboratory is located in a wooden structure built on a pier on Naos Island. This deteriorated structure presents a maintenance problem and should be phased out of operation. An amount of \$150,000 is requested to modify a large structurally sound building in good repair, currently used by the Institute for maintenance operations and storage, to provide a suitable new home for the Coral Ecology Laboratory. The building's lower level will continue to serve these functions after the modifications have been made. To meet the Laboratory's needs, necessary modifications to the upper level include the installation of mechanical, plumbing and electrical systems and the construction of limited partitions.

An amount of \$150,000 is requested for necessary projects at Barro Colorado Island, including relocation and construction of a new animal house to replace the existing termite-infested animal house; installation of partitions, flooring and other finishes in existing laboratories; replacement of termite-infested sheds in the materials storage areas; and repairs to the dock and bulkheading on the waterfront.

In order to prepare for future development at the Tivoli site, an amount of \$25,000 is requested to procure architectural engineering services to begin preliminary plans for improved laboratories, administrative offices, a conference center and other requirements.

-- Conservation Laboratory Improvements (\$260,000): The Division of Conservation of the Museum of History and Technology (MHT) was established in early 1979 in order to consolidate the management and operation of MHT's previously decentralized conservation activities. This reorganization reflects a commitment toward strengthening routine conservation functions necessary for the preservation of MHT's broad range of collections, including costumes and other textiles, paintings, scientific instruments, industrial machinery, musical instruments, and paper objects, among others. Although the management of MHT's conservation program now is centralized, its physical facilities are located in scattered and inadequate spaces. For FY 1981, an amount of \$260,000 is requested to modify existing areas in the basement of the Museum to create a safe, environmentally-controlled and centralized laboratory, which will allow for greater efficiency and for enhanced conservation capabilities. Alterations will include reconstruction of an area of approximately 9,000 square feet to create a central laboratory for a variety of specialized conservation procedures. The lab will require additional areas for storage, a small darkroom and documentation activities; air conditioning and ventilation improvements, including the realignment of ductwork; the installation of dust collectors, fume hoods and appropriate drainage systems; electrical system improvements; and the installation of specialized, built-in equipment necessary for conservation work, including a paint spray booth, counters and large sinks for the washing and deacidification of large textiles and paper objects.

-- Chesapeake Bay Center for Environmental Studies: Water Supply and Distribution System (\$250,000): The existing water supply and distribution system at the Chesapeake Bay Center is undersized for current and future water requirements and is incapable of providing sufficient water pressure to support a needed fire suppression sprinkler system. An amount of \$250,000 is requested for the installation of additional wells, an elevated tower to serve as a reservoir, a standpipe and a water distribution network. This new water system will support sprinklers for the entire CBCES complex and will increase water pressure capacity to adequate levels for current and projected sanitary needs.

-- Radiation Biology Laboratory: Relocation Planning (\$50,000): By the year 1990, it will be necessary to acquire appropriate new quarters for the Radiation Biology Laboratory, currently located in leased space in Rockville, Maryland. For FY 1981, an amount of \$50,000 is requested to begin relocation planning, including a study of the Laboratory's long-range space requirements; and an exploration of alternative sites.

CONSTRUCTION

1979 Construction Appropriation (Museum Support Center Planning).....\$575,000
1980 Construction Appropriation (Museum Support Center Construction)....\$20,600,000
1981 Construction Appropriation (South Quadrangle Planning).....\$500,000

SOUTH QUADRANGLE DEVELOPMENT

An amount of \$500,000 is requested to continue planning for development of the South Quadrangle, an area of approximately 4.2 acres located between the Smithsonian Institution Building and Independence Avenue. Public Law 96-36, which authorizes an amount of \$500,000 for planning the Quadrangle project, was signed by the President on July 20, 1979.

The Institution, assisted by the well-known Japanese architect Junzo Yoshimura as well as by other consultants, has begun work on plans for developing this area in order to meet a number of exhibition, research, education and other public service needs. The design concept is composed of three building elements. The first is a building, on the west side of the Quadrangle, which would provide 78,000 square feet for a new center for the exhibition of Asian art and for Far Eastern studies. Space would be available to the Freer Gallery of Art for conservation, research, storage and other museum purposes. A second building, on the east side, would provide approximately 85,000 square feet for the Museum of African Art. Both museum buildings would be low-profiled above ground pavilions, distinctively and delicately styled (about 18,000 square feet each), allowing a nearly full view of the Smithsonian Institution Building from Independence Avenue. The balance of the exhibition and museum space would be below ground and integrated with adjacent structures. The third element, located entirely beneath the Quadrangle, would provide space for the rare book library, with the associated proper environmental conditions; quarters for the National and Resident Associate Programs; a central education facility; and parking. The entire above-ground area would be landscaped attractively to create within the Quadrangle a quiet enclave for the public and would include a traditional Japanese garden adjacent to the west building.

Important programs of the Freer Gallery of Art and the Museum of African Art would be greatly enhanced by the proposed complex. The extension of the Freer Gallery would provide needed space and program flexibility in the exhibition of Asian Art. Restrictions in the Freer Will prohibit the display of travelling exhibitions or temporary loans in the Freer Building. In addition, the extension will help attract additional important collections, and allow for growth in important museological activities, particularly in research and education.

Further, by providing a Mall site for the Museum of African Art the Quadrangle development will help the Museum flourish as an important national resource and help the public gain a long overdue appreciation of the traditional art forms of African culture. The legislative history of Public Law 95-414, which authorized the transfer of the Museum to the Smithsonian and was signed by the President on October 12, 1978, suggests that the Museum be moved from its present location on Capitol Hill. Such a relocation to the Mall would provide for the proper storage and care for the Museum's collections; for larger exhibition spaces; for improved accessibility to students and scholars; for a substantial increase in the number of visitors; and for better security and parking.

It is anticipated that Quadrangle design and construction, estimated to cost \$49.1 million, would be financed both from nonappropriated and appropriated sources. In April 1979, the Japanese Government generously pledged \$1 million toward this project, and the Institution is continuing its efforts to obtain additional contributions. The **ability** to raise significant sums would be greatly enhanced by Congressional support of the planning process. A report on the availability of nonappropriated Trust funds for Quadrangle development will be presented during hearings on this request.

In FY 1979, approximately \$160,000 of nonappropriated Trust funds were used to develop a program of requirements, preliminary design concepts, engineering and construction data, and comprehensive cost estimates for budget purposes. In FY 1980, \$500,000 of nonappropriated Trust funds is being used to refine this information and to engage an architectural/engineering firm to develop materials appropriate for necessary approval by the National Capital Planning Commission, the Congress, and others. In addition to the preparation of precise concept drawings and renderings, the Smithsonian has initiated action responding to the National Environmental Policy Act and the National Historic Preservation Act; to identify transportation and traffic requirements; to define technical requirements, including exterior finishes; and to prepare comprehensive estimates of construction costs, including alternatives for cost reduction where possible, and of costs associated with equipment and operations.

In FY 1981, the requested \$500,000 in appropriated funds and approximately \$1 million of nonappropriated Trust funds will be required to sustain planning and design activities. During this period tentative design drawings would be prepared for review and, following necessary refinements, the development of working drawings and specifications would begin.

TAB D

SOURCE AND APPLICATION OF OPERATING FUNDS

SMITHSONIAN INSTITUTION

OVERALL SOURCES AND APPLICATION OF FUNDS

The following tables and schedules show the operating funds provided to the Institution as well as the application of these funds. Appendix E, which follows, contains the Institution's financial report to the Congress and the public and also shows the Smithsonian's financial position for FY 1979.

Schedule 1 summarizes the sources and application of all funds of the Institution--Federal appropriations, grants and contracts from federal agencies and nonappropriated Trust funds, both restricted and unrestricted. The schedules following this summary show total expenditures for all types of funds for each of the line items discussed in this Salaries and Expenses appropriation request. Figures for nonappropriated Trust funds for FY 1980 and FY 1981 have been approved by the Regents. These figures also have been submitted to the Office of Management and Budget. It must be emphasized that for both of these years, the estimates for nonappropriated Trust funds are subject to change due to the unpredictability of donations to the Institution, fluctuations in visitor attendance and uncertain economic factors affecting restaurant, parking concession fees and other auxiliary activities.

For FY 1981, overall gross operating funds of the Institution from all sources are projected to equal \$222 million, while net operating income, after deduction of expenses related to auxiliary and bureau activities, is projected at approximately \$154 million. The Federal appropriation request for Salaries and Expenses (\$120,312,000) would amount to approximately 54 percent of the total gross operating revenues, or approximately 78 percent of net operating revenues. Grants and contracts received from federal agencies are expected to total approximately \$15 million. Nonappropriated Trust funds are derived from gifts, investment income from endowments and current fund balances, and from the net proceeds of auxiliary activities (the Smithsonian magazine and other Associates programs, shops, concessions fees, and book and record sales). Gross revenues of nonappropriated Trust funds are expected to continue to grow as in previous years and reach \$86.5 million by FY 1981. Net income, however, is projected to increase only slightly in FY 1981 to \$18.1 million (of which nearly \$5 million would be for restricted purposes) because of lowered sales expectations for records and books, continued inflationary cost increases adversely affecting auxiliary activities, and a conservative estimate of further restricted purpose gifts.

The intended use of the Federally appropriated funds is explained in detail in the preceding sections of this request. The uses of nonappropriated Trust funds are similarly described. In summary, nonappropriated Trust funds are applied, in part, to the portion of administrative expenditures unrecovered from overhead charges and to a large number of allotments to the bureaus for programmatic efforts. The largest of these is the \$2 million per year program initiated in FY 1978 to provide funds for the Collections Acquisitions, Research and Education Programs. Beginning in FY 1979, the Board of Regents also approved the use of the Institution's unrestricted Trust funds for certain programs previously financed with appropriated funds. These programs which continue to be financed by unrestricted Trust funds, are the Smithsonian's Institutional Fellowship Program, the Trust fund share of rental costs for administrative units in L'Enfant Plaza, and rental payments by auxiliary activities occupying space on the Mall. For FY 1980, \$1,148,500 will be applied to these programs and a similar amount is projected for FY 1981. Also in FY 1980, an amount of \$500,000 of unrestricted Trust funds is being provided for South Quadrangle planning. In FY 1981, approximately \$1,000,000 of unrestricted Trust funds will be provided for the South Quadrangle project. Finally, assuming that actual financial results for FY 1981 are as now projected, there still should be sufficient surplus to allow a continuing transfer of approximately \$2 million to Smithsonian endowment funds to provide income for future years.

All projections are closely monitored throughout the year with adjustments to estimates dictated by actual results.

Source and Application of Operating Funds
Budget FY 1980

(Dollars in thousands)

	Total		Federal		Unrestricted Trust Funds		Restricted Trust Funds		Federal Grants and Contracts	
	F/T	\$	F/T	\$	F/T	\$	F/T	\$	F/T	\$
FUNDS PROVIDED										
Federal Appropriation										
Investment	--	108,555	--	108,555	--	--	--	--	--	--
Gifts, Grants and Contracts	--	4,625	--	--	--	2,250	--	2,100	--	--
Auxiliary Activities Revenues	--	15,003	--	--	--	85	--	2,260	--	12,640
Associates - Magazine	--		--		--		--		--	
- Other	--	33,047	--		--	33,047	--	--	--	--
Museum Shops and Mail Order	--	8,963	--		--	8,963	--	--	--	--
Concessions and Product Dev.	--	14,092	--		--	14,092	--	--	--	--
Other Auxiliary Activities	--	2,250	--		--	2,250	--	--	--	--
Total Auxiliary Activities	--	10,390	--		--	10,390	--	--	--	--
Bureau Activities	--	68,742	--		--	68,742	--	--	--	--
Miscellaneous	--	2,085	--		--	--	--	2,085	--	--
Total Income	--	927	--		--	15	--	422	--	--
Less Expenses: Auxiliary Activities										
Associates - Magazine	75	27,547	--		75	27,547	--	--	--	--
- Other	61	9,113	--		61	9,113	--	--	--	--
Museum Shops and Mail Order	157	13,870	--		157	13,870	--	--	--	--
Concessions and Product Dev.	14	460	--		14	460	--	--	--	--
Other Auxiliary Activities	71	9,075	--		71	9,075	--	--	--	--
Total Auxiliary Activities	378	60,065	--		378	60,065	--	--	--	--
Bureau Activities	41	1,717	--		--	--	41	1,717	--	--
Net Funds Provided	--	138,155	--	108,555	--	11,027	--	4,850	--	12,640
FUNDS APPLIED (Net/Act. Expense)										
Science (Net)	1,613	54,928	1,289	39,958	83	269	--	483	218	12,452
History and Art	698	22,441	638	18,232	14	615	2	575	1	83
Public Service	88	3,038	70	2,344	18	671	--	--	23	--
Museum Programs	297	8,901	286	8,640	11	230	--	10	21	--
Special Programs	38	6,080	25	2,343	13	604	--	3,010	43	80
Other Activities	8	296	--	--	8	264	--	--	7	25
Facilities Services	923	29,801	911	28,957	12	808	--	36	--	--
Administration (Net)	412	8,358	256	8,081	155	225	--	13	39	--
Total	4,077	133,843	3,475	108,555	314	3,686	2	4,127	219	12,640
TRANSFERS to (From)										
--Current Funds	--	--	--	--	--	4,082	--	(4,082)	--	--
--Endowment Funds	--	2,321	--	--	--	2,021	--	100	--	200
--Plant Funds	--	1,238	--	--	--	1,238	--	--	--	--
FUND BALANCE - Beginning of Year	--	21,432	--	--	--	4,965	--	11,567	--	4,864
CHANGE IN FUND BALANCE	--	753	--	--	--	--	--	938	--	(185)
FUND BALANCE - End of Year	--	22,185	--	--	--	4,965	--	12,505	--	4,679
/1 Net of Investment Manager's Fees.										
	--		--		--				--	36

*Includes unrestricted allotments and auxiliary activities.

Source and Application of Operating Funds
Estimated FY 1981

(Dollars in thousands)

	Total		Federal		Unrestricted Trust Funds		Restricted		Federal Grants	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	Spec. Purpose	F/T Empl.	\$	F/T Empl.	\$
FUNDS PROVIDED										
Federal Appropriation										
Investment	--	120,312	--	120,312	--	--	--	--	--	--
Gifts, Grants and Contracts	--	4,875	--	--	--	275	--	2,200	--	--
Auxiliary Activities Revenues	--	17,676	--	--	--	16	--	2,165	--	15,410
Associates - Magazine										
- Other	--	36,580	--	--	--	--	--	--	--	--
Museum Shops and Mail Order	--	9,830	--	--	--	--	--	--	--	--
Concessions and Product Dev.	--	15,862	--	--	--	--	--	--	--	--
Other Auxiliary Activities	--	2,500	--	--	--	--	--	--	--	--
Total Auxiliary Activities	--	11,437	--	--	--	--	--	--	--	--
Bureau Activities	--	76,209	--	--	--	--	--	--	--	--
Miscellaneous	--	2,173	--	--	--	2,173	--	500	--	--
Total Income	--	991	--	--	--	476	--	--	--	--
	--	222,236	--	120,312	--	2,940	--	4,865	--	15,410
Less Expenses: Auxiliary Activities										
Associates - Magazine	75	30,880	--	--	75	--	--	--	--	--
- Other	62	9,930	--	--	62	--	--	--	--	--
Museum Shops and Mail Order	167	15,295	--	--	167	--	--	--	--	--
Concessions and Product Dev.	14	500	--	--	14	--	--	--	--	--
Other Auxiliary Activities	69	10,196	--	--	69	--	--	--	--	--
Total Auxiliary Activities	387	66,801	--	--	387	--	--	--	--	--
Bureau Activities	40	1,653	--	--	40	1,653	--	--	--	--
Net Funds Provided	--	153,782	--	120,312	--	1,287	--	4,865	--	15,410
FUNDS APPLIED (Net/Act. Expense)										
Science (Net)	1,647	59,621	1,306	41,911	87	282	--	1,762	231	15,226
History and Art	701	23,211	645	19,175	13	625	2	2,774	1	39
Public Service	92	3,317	73	2,522	19	774	--	21	--	--
Museum Programs	308	9,474	295	9,178	13	287	--	2	--	--
Special Programs	36	10,253	26	6,621	10	432	--	73	--	120
Other Activities	10	354	--	--	10	321	--	8	--	25
Facilities Services	938	33,183	925	32,307	13	871	--	--	--	--
Administration (Net)	418	8,700	260	8,598	157	38	--	50	--	--
Total	4,150	148,113	3,530	120,312	322	3,630	2	4,071	232	15,410
TRANSFERS to (From)										
--Current Funds	--	--	--	--	--	--	--	--	--	--
--Endowment Funds	--	2,321	--	--	--	(4,482)	--	200	--	--
--Plant Funds	--	1,300	--	--	--	100	--	--	--	--
FUND BALANCE - Beginning of Year	--	22,185	--	--	--	--	--	--	--	36
CHANGE IN FUND BALANCE	--	2,048	--	--	--	12,505	--	4,679	--	--
FUND BALANCE - End of Year	--	24,233	--	--	--	1,598	--	(25)	--	--
Net of Investment Manager's Fees										
	--	24,233	--	--	--	14,103	--	4,654	--	36

*Includes unrestricted allotments and auxiliary activities.

covered all or in
evenue of activity.

Source and Application of Operating Funds

Estimated FY 1981

(Dollars in thousands)

SCIENCE	Total		Federal		Unrestricted		Trust Funds		Restricted		Federal Grants	
	All Funds	F/T	F/T	Empl.	Appropriation	F/T	Empl.	General	F/T	Empl.	Trust Funds and Contracts	F/T
	\$	Empl.	\$	Empl.	\$	\$	\$	\$	\$	\$	\$	\$
Ass't Secretary, Science	709	9	323	7	46	--	--	--	--	90	2	250
Nat'l Museum of Natural History	16,759 (1)	529	14,899	506	45	--	--	123 (1)	1	502	21	1,190
Astrophysical Observatory	21,078	343	5,303	77	2,483	83	--	53	1	139	182	13,100
(SAO Overhead Recovery)	(2,477)	--	--	--	(2,477)	--	--	--	--	--	--	--
Tropical Research Institute	2,889 (29)	89	2,772	87	48	2	--	29 (29)	--	40	--	--
Radiation Biology Laboratory	2,131	53	2,008	49	--	--	--	1	1	22	3	100
National Air & Space Museum	7,849 (900)	256	6,211	223	15	--	--	1,102 (900)	9	345	3	176
Chesapeake Bay Center	1,356 (11)	38	956	22	80	1	--	20 (11)	--	--	15	300
National Zoological Park	9,036	332	8,807	327	40	--	--	53	--	36	5	100
Center for the Study of Man	682	8	632	8	2	--	--	--	--	38	--	10
Fort Pierce Bureau	550	11	--	--	--	--	--	--	11	550	--	--
TOTAL, SCIENCE	60,562	1,668	41,911	1,306	282	87	--	1,381	23	1,762	231	15,226
Less expenses of generating revenue	(941)	(21)	--	--	--	--	--	(941)	--	--	--	--
TOTAL, SCIENCE (Net)	59,621	1,647	41,911	1,306	282	87	--	440	23	1,762	231	15,226
/1 Expenses covered all or in part from revenue of activity.												

Source and Application of Operating Funds

Budget FY 1980

(Dollars in thousands)

HISTORY AND ART	Total		Federal		Unrestricted		Trust Funds		Restricted		Federal Grants	
	All Funds F/T Empl.	\$	Appropriation F/T Empl.	\$	General F/T Empl.	Spec. Purpose F/T Empl.	\$	F/T Empl.	Trust Funds and Contracts F/T Empl.	\$	F/T Empl.	\$
Ass't Secretary, History and Art	5	217	4	154	1	63	--	--	--	--	--	--
-- Joseph Henry Papers	6	183	5	162	--	--	1	--	1	1	1	19 ²
Nat'l Museum History & Technology	282	7,770 (9) ¹	278	7,356	2	106	184 (9) ¹	2	--	124	--	--
Nat'l Collection of Fine Arts	106	3,570 (1) ¹	105	3,369	1	46	84 (1) ¹	--	--	71	--	--
Nat'l Portrait Gallery	79	2,608 (4) ¹	76	2,462	--	22	15 (4) ¹	--	3	109	--	--
Hirshhorn Museum	80	2,840 (2) ¹	80	2,279	--	23	31 (2) ¹	--	--	507	--	--
Freer Gallery of Art	49	1,822	29	663	--	9	--	--	20	1,150	--	--
Archives of American Art	28	865	17	548	--	3	--	--	11	314	--	--
Cooper-Hewitt Museum	45	2,117 (373) ¹	21	638	10	329	623 (373) ¹	11	3	487	--	40
Museum of African Art	34	1,061 (223) ¹	23	601	--	14	249 (223) ¹	5	6	173	--	24
TOTAL HISTORY AND ART	714	23,053	638	18,232	14	615	1,187	18	43	2,936	1	83
Less expenses of generating revenue	(16)	(612)	--	--	--	--	(612)	(16)	--	--	--	--
TOTAL HISTORY AND ART (Net)	698	22,441	638	18,232	14	615	575	2	43	2,936	1	83
/1 Expenses covered all or in part from revenue of activity.												
/2 Amount is no longer anticipated.												

Source and Application of Operating Funds

Estimated FY 1981

(Dollars in thousands)

	Total Funds		Federal Appropriation		Unrestricted General		Spec. Purpose		Restricted Trust Funds		Federal Grants and Contracts	
	F/T	Empl.	\$	F/T	Empl.	\$	F/T	Empl.	\$	F/T	Empl.	\$
HISTORY AND ART												
Ass't Secretary, History and Art	5		219	4	156	1	63	--	--	--	--	--
-- Joseph Henry Papers	7		211	6	191	--	--	--	1	--	1	192
Nat'l Museum History & Technology	282		8,101	279	7,588	1	88	2	156	--	--	--
Nat'l Collection of Fine Arts	107		3,817	106	3,535	1	47	--	90	--	--	--
Nat'l Portrait Gallery	79		2,789	76	2,651	--	21	--	14	3	--	--
Hirshhorn Museum	80		2,418	80	2,349	--	23	--	30	--	--	--
Freer Gallery of Art	47		1,982	30	728	--	13	--	--	17	--	--
Archives of American Art	28		885	17	564	--	5	--	--	11	--	--
Cooper-Hewitt Museum	47		2,293	23	714	10	351	11	712	3	--	20
Museum of African Art	35		1,167	24	699	--	14	5	266	6	--	--
TOTAL HISTORY AND ART	717		23,882	645	19,175	13	625	18	1,269	40	1	39
Less expenses of generating revenue	(16)		(671)	--	--	--	--	(16)	(671)	--	--	--
TOTAL HISTORY AND ART (Net)	701		23,211	645	19,175	13	625	2	598	40	1	39
/1 Expenses covered all or in part from revenue of activity.												
/2 Amount is no longer anticipated.												

Source and Application of Operating Funds

Budget FY 1980

(Dollars in thousands)

	Total Funds		Federal Appropriation		Unrestricted General *		Trust Funds Spec. Purpose		Restricted Trust Funds		Federal Grants and Contracts	
	F/T	\$	F/T	Empl.	F/T	Empl.	F/T	Empl.	F/T	Empl.	F/T	\$
PUBLIC SERVICE												
Ass't Secretary, Public Service	7	242	6	195	1	47						
-- Ofc. of Telecommunications	8	312	2	47	6	265						
-- Visitors Information and Associates Reception Center	11	351	1	18	10	333						
Anacostia Neighborhood Museum	20	734	19	685	1	26						
International Exchange Service	5	222	5	222	--	--						
Division of Performing Arts	28	3,032 /1 (2,690)	9	342	19	2,690 /1 (2,690)						
Smithsonian Institution Press	34	1,774 /1 (939)	28	835	6	939 /1 (939)						
Smithsonian Exposition Books	10	3,890 /1 (3,890)	--	--	10	3,890 /1 (3,890)						
TOTAL PUBLIC SERVICE	123	10,557	70	2,344	53	8,190						
Less expenses of generating revenue	(35)	(7,519)	--	--	(35)	(7,519)						
TOTAL PUBLIC SERVICE (Net)	88	3,038	70	2,344	18	671						
/1 Expenses covered all or in part from revenue of activity.												
* Includes unrestricted allotments and auxiliary activities.												

Source and Application of Operating Funds

Estimated FY 1981

(Dollars in thousands)

	Total		Federal		Unrestricted		Trust Funds		Restricted		Federal Grants	
	All Funds		Appropriation		General *		Spec. Purpose		Trust Funds		Funds and Contracts	
	F/T	\$	F/T	Empl.	F/T	Empl.	F/T	Empl.	F/T	Empl.	F/T	Empl.
<u>PUBLIC SERVICE</u>												
Ass't Secretary, Public Service	8	270	6	209	2	61	--	--	--	--	--	--
-- Ofc. of Telecommunications	8	370	2	60	6	310	--	--	--	--	--	--
-- Visitors Information and Associates Reception Center	12	406	2	31	10	375	--	--	--	--	--	--
Anacostia Neighborhood Museum	20	755	19	706	1	28	--	--	--	--	--	--
International Exchange Service	5	232	5	232	--	--	--	--	--	--	--	--
Division of Performing Arts	29	3,395 ¹ (3,000) ¹	10	395	19	3,000 ¹ (3,000) ¹	--	--	--	--	--	--
Smithsonian Institution Press	35	1,777 ¹ (888) ¹	29	889	6	888 ¹ (888) ¹	--	--	--	--	--	--
Smithsonian Exposition Books	10	4,593 ¹ (4,593) ¹	--	--	10	4,593 ¹ (4,593) ¹	--	--	--	--	--	--
TOTAL PUBLIC SERVICE	127	11,798	73	2,522	54	9,255	--	--	--	--	--	--
Less expenses of generating revenue	(35)	(8,481)	--	--	(35)	(8,481)	--	--	--	--	--	--
TOTAL PUBLIC SERVICE (Net)	92	3,317	73	2,522	19	774	--	--	--	--	--	--
/1 Expenses covered all or in part from revenue of activity.												
* Includes unrestricted allotments and auxiliary activities.												

Source and Application of Operating Funds

Budget FY 1980

	Total	Federal Appropriation	Unrestricted Trust Funds	Restricted Trust Funds	Federal Grants
All Funds	F/T	\$	F/T	\$	F/T
Empl.	Empl.		Empl.		Empl.
MUSEUM PROGRAMS					
Ass't Secretary, Museum Programs	6	240	6	213	--
-- Office of Museum Programs	12	356 (30)	12	326	--
-- South Group Building Manager	40	735	40	733	--
-- Office of Horticulture	29	941 (7)	29	932	--
-- International Activities	5	156	5	156	--
Office of the Registrar	4	117	4	117	--
Conservation Analytical Lab.	22	780	22	780	--
Smithsonian Libraries	108	2,982	99	2,802	--
Office of Exhibits Central	47	1,272	47	1,266	--
Traveling Exhibition Service	22	966 (80)	6	159	--
Smithsonian Archives	15	398	13	354	--
National Museum Act	3	802	3	802	--
TOTAL MUSEUM PROGRAMS	313	9,745	286	8,640	--
Less Expenses of generating revenue	(16)	(844)	--	--	--
TOTAL MUSEUM PROGRAMS (Net)	297	8,901	286	8,640	--
/1 Expenses covered all or in part from revenue of activity. *Includes unrestricted allotments and auxiliary activities.					

Source and Application of Operating Funds
Estimated FY 1981

(Dollars in thousands)

	Total All Funds		Federal Appropriation		Unrestricted Trust Funds General *		Spec. Purpose		Restricted Trust Funds		Federal Grants Trust Funds and Contracts	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
MUSEUM PROGRAMS												
Ass't Secretary, Museum Programs	6	230	6	222	--	6	--	--	--	2	--	--
-- Office of Museum Programs	12	394 (29) ¹	12	365	--	--	--	29 (29) ¹	--	--	--	--
-- South Group Building Manager	41	806	41	804	--	--	--	2	--	--	--	--
-- Office of Horticulture	29	995 (8) ¹	29	987	--	--	--	8 (8) ¹	--	--	--	--
-- International Activities	5	157	5	157	--	--	--	--	--	--	--	--
Office of the Registrar	4	119	4	119	--	--	--	--	--	--	--	--
Conservation Analytical Lab.	29	896	29	896	--	--	--	--	--	--	--	--
Smithsonian Libraries	111	3,250	100	3,009	11	241	--	--	--	--	--	--
Office of Exhibits Central	47	1,295	47	1,290	--	--	--	5	--	--	--	--
Traveling Exhibition Service	22	1,068 (905) ¹	6	163	16	905 (905) ¹	--	--	--	--	--	--
Smithsonian Archives	15	403	13	363	2	40	--	--	--	--	--	--
National Museum Act	3	803	3	803	--	--	--	--	--	--	--	--
TOTAL MUSEUM PROGRAMS	324	10,416	295	9,178	29	1,192	--	44	--	2	--	--
Less Expenses of generating revenue	(16)	(942)	--	--	(16)	(905)	--	(37)	--	--	--	--
TOTAL MUSEUM PROGRAMS (Net)	308	9,474	295	9,178	13	287	--	7	--	2	--	--
/1 Expenses covered all or in part from revenue of activity. *Includes unrestricted allotments and auxiliary activities.												

Source and Application of Operating Funds

Budget FY 1980

(Dollars in thousands)

	Total		Federal		Unrestricted		Trust Funds		Restricted		Federal Grants	
	All Funds		Appropriation		General		Spec. Purpose		Trust Funds		Federal Grants	
	F/T	\$	F/T	\$	F/T	\$	F/T	\$	F/T	\$	F/T	\$
	Empl.		Empl.		Empl.		Empl.		Empl.		Empl.	
<u>SPECIAL PROGRAMS</u>												
American Studies & Folklife Prog.	15	1,068	4	488	11	480	--	5	--	15	--	80
Int'l Environmental Science Prog.	2	408	2	408	--	--	--	--	--	--	--	--
<u>ACADEMIC & EDUCATIONAL PROGRAMS</u>												
--Office of Fellowships & Grants	11	273	10	238	1	22	--	5	--	8	--	--
--Fellowships & Grants	--	700	--	--	--	--	--	700	--	--	--	--
--Regents' Fellowships	--	100	--	--	--	--	--	100	--	--	--	--
--Symposia & Seminars	4	182 (9)	3	71	1	82	--	9 (9)	--	20	--	--
--Elementary & Secondary Educ.	6	212	6	192	--	20	--	--	--	--	--	--
Collections Mgmt./Inventory Prog.	--	546	--	546	--	--	--	--	--	--	--	--
Collections Acquisitions, Research & Education Program	--	2,200	--	--	--	--	--	2,200	--	--	--	--
Major Exhibition Program	--	--	--	--	--	--	--	--	--	--	--	--
Smithsonian National Awareness Program	--	--	--	--	--	--	--	--	--	--	--	--
Museum Support Center - Equip.	--	400	--	400	--	--	--	--	--	--	--	--
TOTAL SPECIAL PROGRAMS	38	6,089	25	2,343	13	604	--	3,019	--	43	--	80
less expenses of generating revenue	--	(9)	--	--	--	--	--	(9)	--	--	--	--
TOTAL SPECIAL PROGRAMS (Net)	38	6,080	25	2,343	13	604	--	3,010	--	43	--	80

(Dollars in thousands)

	Total All Funds		Federal Appropriation		Unrestricted Trust Funds General		Spec. Purpose		Restricted Trust Funds		Federal Grants	
	F/T	\$	F/T	\$	F/T	\$	F/T	\$	F/T	\$	F/T	\$
	Empl.		Empl.		Empl.		Empl.		Empl.		Empl.	
SPECIAL PROGRAMS												
American Studies & Folklife Prog.	12	943	4	506	8	297	--	5	--	15	--	120
Int'l Environmental Science Prog.	2	524	2	524	--	--	--	--	--	--	--	--
ACADEMIC & EDUCATIONAL PROGRAMS												
--Office of Fellowships & Grants	11	277	10	243	1	24	--	2	--	8	--	--
--Fellowships & Grants	--	700	--	--	--	--	--	700	--	--	--	--
--Regents' Fellowships	--	100	--	--	--	--	--	100	--	--	--	--
--Symposia & Seminars	4	209	3	73	1	86	--	--	--	50	--	--
--Elementary & Secondary Educ.	7	277	7	252	--	25	--	--	--	--	--	--
Collections Mgmt./Inventory Prog.	--	562	--	562	--	--	--	--	--	--	--	--
Collections Acquisitions, Research & Education Program	--	2,200	--	--	--	--	--	2,200	--	--	--	--
Major Exhibition Program	--	1,000	--	1,000	--	--	--	--	--	--	--	--
Smithsonian National Awareness Program	--	600	--	600	--	--	--	--	--	--	--	--
Museum Support Center - Equip.	--	2,861	--	2,861	--	--	--	--	--	--	--	--
TOTAL SPECIAL PROGRAMS	36	10,253	26	6,621	10	432	--	3,007	--	73	--	120
Less expenses of generating revenue	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL SPECIAL PROGRAMS (Net)	36	10,253	26	6,621	10	432	--	3,007	--	73	--	120

Source and Application of Operating Funds
Budget FY 1980

(Dollars in thousands)

	Total All Funds		Federal Appropriation		Unrestricted Trust Funds General *		Spec. Purpose		Restricted Trust Funds		Federal Grants and Contracts	
	F/T Empl.	\$ / -	F/T Empl.	\$	F/T Empl.	\$ / -	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
MEMBERSHIP, DEVELOPMENT AND AUXILIARY ACTIVITIES												
Ofc. of Membership & Development	8	271	--	--	8	264	--	--	--	7	--	--
National Associates Program	22	6,960 (6,960)	--	--	22	6,960 (6,960)	--	--	--	--	--	--
Resident Associates Program	39	2,178 (2,153)	--	--	39	2,153 (2,153)	--	--	--	--	--	25
Smithsonian Magazine	75	27,547 (27,547)	--	--	75	27,547 (27,547)	--	--	--	--	--	--
Business Management Office	3	153 (153)	--	--	3	153 (153)	--	--	--	--	--	--
Museum Shops	125	7,548 (7,548)	--	--	125	7,548 (7,548)	--	--	--	--	--	--
Mail Order	29	6,169 (6,169)	--	--	29	6,169 (6,169)	--	--	--	--	--	--
Concessions & Product Development	14	460 (460)	--	--	14	460 (460)	--	--	--	--	--	--
Belmont Conference Center	8	394 (394)	--	--	8	394 (394)	--	--	--	--	--	--
TOTAL MEMBERSHIP, DEVELOPMENT AND AUXILIARY ACTIVITIES	323	51,680	--	--	323	51,648	--	--	--	7	--	25
Less expenses of generating revenue	(315)	(51,384)	--	--	(315)	(51,384)	--	--	--	--	--	--
TOTAL MEMBERSHIP, DEVELOPMENT AND AUXILIARY ACTIVITIES (Net)	8	296	--	--	8	264	--	--	--	7	--	25
/1 Expenses covered all or in part from revenue of activity.												
* Includes auxiliary activities.												

Source and Application of Operating Funds
Estimated FY 1981

(Dollars in thousands)

	Total All Funds		Federal Appropriation		Unrestricted General*		Trust Funds Spec. Purpose		Restricted Trust Funds and Contracts	
	F/T Empl.	\$ /1	F/T Empl.	\$	F/T Empl.	\$ /1	F/T Empl.	\$	F/T Empl.	\$
MEMBERSHIP, DEVELOPMENT AND AUXILIARY ACTIVITIES										
Ofc. of Membership & Development	10	329	--	--	10	321	--	--	--	8
National Associates Program	22	(7,725)	--	--	22	(7,725)	--	--	--	--
Resident Associates Program	40	(2,205)	--	--	40	(2,205)	--	--	--	25
Smithsonian Magazine	75	(30,880)	--	--	75	(30,880)	--	--	--	--
Business Management Office	3	(163)	--	--	3	(163)	--	--	--	--
Museum Shops	129	(8,182)	--	--	129	(8,182)	--	--	--	--
Mail Order	35	(6,950)	--	--	35	(6,950)	--	--	--	--
Concessions & Product Development	14	(500)	--	--	14	(500)	--	--	--	--
Belmont Conference Center	8	(430)	--	--	8	(430)	--	--	--	--
TOTAL MEMBERSHIP, DEVELOPMENT AND AUXILIARY ACTIVITIES	336	57,389	--	--	336	57,356	--	--	--	25
Less expenses of generating revenue	(326)	(57,035)	--	--	(326)	(57,035)	--	--	--	--
TOTAL MEMBERSHIP, DEVELOPMENT AND AUXILIARY ACTIVITIES (Net)	10	354	--	--	10	321	--	--	--	25
/1 Expenses covered all or in part from revenue of activity.										
* Includes auxiliary activities.										

Source and Application of Operating Funds

Budget FY 1986

(Dollars in thousands)

	Total		Federal		Unrestricted Trust Funds		Restricted Trust Funds		Federal Grants	
	All Funds		Appropriation		General*	Spec. Purpose	Trust Funds		Trust Funds and Contracts	
	F/T	\$	F/T	\$	F/T	F/T	F/T	\$	F/T	\$
	Empl.		Empl.		Empl.	Empl.	Empl.		Empl.	
<u>FACILITIES SERVICES</u>										
Facilities, Planning and Engineering Services	42	1,295	35	1,104	7	--	--	--	--	--
Protection Services	555	10,371	555	10,315	--	--	--	--	--	--
Office of Plant Services	329	18,163 ^{/1} (28)	321	17,538	5	28 ^{/1} (28)	--	--	--	--
TOTAL FACILITIES SERVICES	926	29,829	911	28,957	12	3	--	--	--	--
Less expenses of generating revenue	(3)	(28)	--	--	--	(3)	--	--	--	--
TOTAL FACILITIES SERVICES (Net)	923	29,801	911	28,957	12	--	--	--	--	--
<u>ADMINISTRATION</u>										
Less overhead recovery	424 (12)	13,637 ^{/1} (355)	256	8,081	167 (12)	--	13	39	--	--
ADMINISTRATION (Net)	--	(4,924)	--	--	--	--	--	--	--	--
	412	8,358	256	8,081	155	--	1	39	--	--
GRAND TOTAL APPLIED	4,077	133,843	3,475	108,555	314	2	67	4,835	219	12,640
/1 Expenses covered all or in part from revenue of activity.										
* Includes unrestricted allotments and auxiliary activities.										

Source and Application of Operating Funds

Estimated FY 1981

(Dollars in thousands)

	Total All Funds		Federal Appropriation		Unrestricted Trust Funds General *		Spec. Purpose		Restricted Trust Funds		Federal Grants	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
<u>FACILITIES SERVICES</u>												
Facilities, Planning and Engineering Services	44	1,480	36	1,255	8	225	--	--	--	--	--	--
Protection Services	563	10,707	563	10,682	--	20	--	5	--	--	--	--
Office of Plant Services	334	21,000 ^{1/1} (4)	326	20,370	5	626	3	4 ⁴ (4)	--	--	--	--
TOTAL FACILITIES SERVICES	941	33,187	925	32,307	13	871	3	9	--	--	--	--
Less expenses of generating revenue	(3)	(4)	--	--	--	--	(3)	(4)	--	--	--	--
TOTAL FACILITIES SERVICES (Net)	938	33,183	925	32,307	13	871	--	5	--	--	--	--
<u>ADMINISTRATION</u>												
Less overhead recovery ^{1/2}	428 (10)	14,470 ^{1/1} (380)	260	8,598	167 (10)	5,808 ^{1/1} (380)	--	14	1	50	--	--
	--	(5,390)	--	--	--	(5,390)	--	--	--	--	--	--
ADMINISTRATION (Net)	418	8,700	260	8,598	157	38	--	14	1	50	--	--
GRAND TOTAL APPLIED	4,150	148,113	3,530	120,312	322	3,630	2	4,071	64	4,690	232	15,410
^{1/1} Expenses covered all or in part from revenue of activity.												
^{1/2} See Astrophysical Observatory under Science for balance of overhead recovery.												
* Includes unrestricted allot- ments and auxiliary activities.												

TAB E

APPENDIX

SMITHSONIAN INSTITUTION
"Salaries and Expenses"

Report of Appropriation by Objects of Expense
(Dollars in thousands)

	<u>1979</u> <u>Actual</u>	<u>1980</u> <u>Base</u>	<u>1981</u> <u>Estimate</u>	<u>Increase</u> <u>1981 over 1980</u>
11 Personnel Compensation.....	64,380	72,587	75,081	2,494
12 Personnel Benefits.....	6,285	6,974	7,355	381
21 Travel & Transportation of Persons.....	749	745	844	99
22 Transportation of Things.....	358	439	485	46
23 Rent, Communications and Utilities.....	10,538	10,742	13,392	2,650
24 Printing and Reproduction....	983	1,315	1,529	214
25 Other Services.....	6,146	6,584	7,882	1,298
26 Supplies and Materials.....	4,944	4,692	5,754	1,062
31 Equipment.....	2,132	2,919	6,325	3,406
Acquisitions for Collections	818	827	919	92
32 Land and Structures.....	38	6	22	16
41 Grants.....	775	714	712	-2
42 Insurance Claims and Indemnities.....	<u>9</u>	<u>11</u>	<u>12</u>	<u>1</u>
TOTAL.....	98,155	108,555 ^{/1}	120,312	11,757

/1 This amount includes requested supplemental funding of \$4,774 thousand for the cost of the FY 1980 legislated pay raises.

SMITHSONIAN VISITORS
(By Fiscal Year)

Fiscal Year	Smithsonian Institution Building	Arts and Industries Building	Museum of Natural History	Museum of Air & Space Building	Freer Gallery of Art	Museum of History & Technology ^{/1}	Fine Arts & Portrait Galleries ^{/2}	Renwick Gallery ^{/3}	Hirshhorn Museum & Sculpture Garden ^{/4}	Total ^{/5}
1961	1,024,526	2,912,371	2,047,973	987,858	130,746					7,103,474
1962	1,222,112	3,471,050	2,113,053	1,986,319	130,597					8,923,131
1963	1,630,280	3,534,182	2,288,397	2,673,618	183,359					10,309,836
1964	1,311,061	2,457,243	2,512,306	1,854,186	168,625	2,509,774				10,813,195
1965	1,065,635	2,028,175	3,051,472	1,705,683	210,972	5,091,776				13,153,713 ^{/6}
1966	870,010	1,746,715	2,988,006	1,494,922	222,089	4,829,112				12,150,854
1967	1,020,312	1,638,873	3,409,957	1,484,422	212,920	5,546,102				13,312,586 ^{/8}
1968	847,176	1,344,622	3,257,957	1,233,698	169,533	4,750,023	30,888			11,523,897 ^{/9}
1969	275,259 ^{/7}	1,493,141	2,916,749	1,225,959	179,374	4,174,071	166,177			10,430,730 ^{/9}
1970		2,557,155	3,269,791	1,839,373	217,305	5,483,555	216,523			13,583,702
1971	681,255	1,985,732	3,456,755	1,337,445	190,425	5,955,128	194,468			13,801,208
1972	819,617	2,306,071	3,414,640	1,104,151	230,475	6,808,526	246,657	105,186		15,035,323
1973	807,294	2,285,603	3,306,105	1,223,917	204,858	6,905,339	254,005	165,846		15,152,967
1974	739,651	2,040,731	3,067,694	1,285,598	219,346	5,850,227	329,487	175,672		13,708,406
1975	967,164	1,973,356	3,668,587	1,416,432	215,061	7,111,054	368,948	165,433		17,506,575
1976	1,033,803	592,400 ^{/10}	4,342,601	1,451,049 ^{/11}	225,257	6,318,964	465,231	222,351	1,620,540	16,239,284
T.Q.	291,808	543,007	1,535,613	3,062,254 ^{/11}	59,217	1,470,708	112,682	46,661	1,587,628	7,556,365
1977	755,146	1,223,703	4,925,741	9,886,350	214,675	4,307,020	399,364	155,792	434,415	23,210,683
1978	757,485	903,081	5,366,159	10,028,888	244,493	4,050,687	480,947	201,284	1,299,134	23,332,158
1979	877,835	940,843	5,594,748	10,151,359	286,269	4,367,183	434,481	188,788	1,211,439	24,052,945

^{/1} Museum of History and Technology opened January 1964.

^{/2} National Collection of Fine Arts opened May 1968 and National Portrait Gallery in October 1968.

^{/3} Renwick Gallery opened January 1972.

^{/4} Hirshhorn Museum and Sculpture Garden opened October 1974.

^{/5} Excluded from these totals are over 3 million visitors annually to the National Zoological Park, 30,000 to the Anacostia Museum, 150,000 to the Cooper-Hewitt Museum in New York and approximately 7,000 visitors to the Museum of African Art since its transfer to the Smithsonian in August 1979.

^{/6} July-August 1964, certain Smithsonian Institution buildings were open 4:30 to 10 p.m. for the first time.

^{/7} Building closed for renovation October 1968.

^{/8} Reflects the significant decrease in visitors in the Nation's Capital in the first six months of CY 1968 due to unsettled local conditions.

^{/9} Fiscal year 1969 visitor totals represent the effect of local conditions in late 1968 on visitor attendance.

^{/10} Building closed for installation of "1876" exhibition September, 1975 through April, 1976.

^{/11} Old building closed November, 1975. Foyer of new museum opened to visitors February, 1976. New building completely opened July 1, 1976.

SMITHSONIAN INSTITUTION

1979

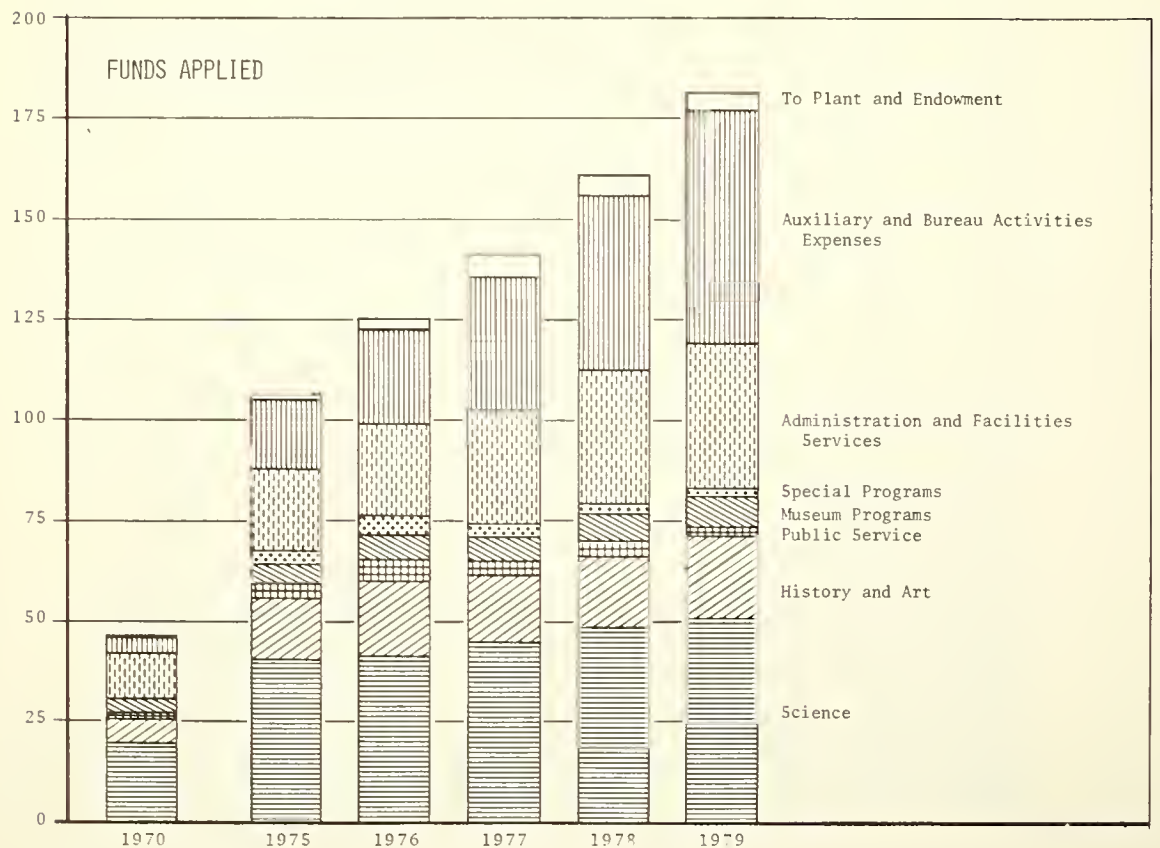
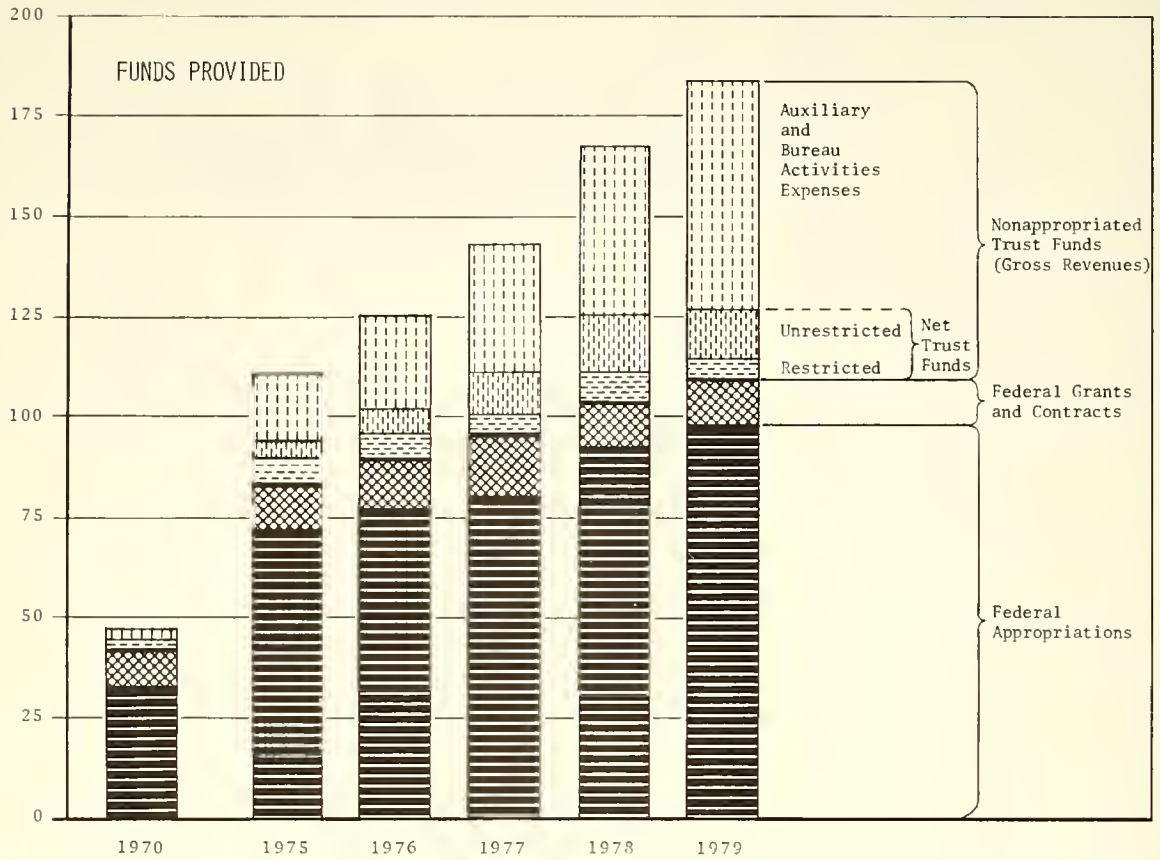
FINANCIAL REPORT

CHRISTIAN C. HOHENLOHE, TREASURER

SMITHSONIAN INSTITUTION OPERATING FUNDS

Fiscal Years 1970 and 1975-1979

(In \$1,000,000's)



FINANCIAL REPORT

CHRISTIAN C. HOHENLOHE, TREASURER

SUMMARY: Fiscal year 1979 was a generally favorable year for the Smithsonian, with substantial financial support from all sources and better-than-balanced budgets. As demonstrated by the chart on the facing page, there was again overall growth in the Institution's funds, sufficient primarily to continue existing programs but also, in a few cases, to pursue new initiatives. A welcome newcomer to the Smithsonian family during the year was the Museum of African Art. A federal appropriation to the Institution for the museum's operating support permitted the acquisition to take place on August 13, 1979, and the financial activities of the museum since that date are incorporated in this report.

Generous congressional support of the Institution continued in fiscal year 1979, with overall appropriations totaling over \$110.5 million, an increase of more than \$6 million over the previous year. These federal appropriations provide core support for the Institution's basic research, exhibition, and education programs; for acquisition, care, documentation, and study of the national collections; and for construction, maintenance, restoration, and protection of all Smithsonian facilities. While much of the increase over the prior year was necessary to cover the inflationary costs felt throughout Smithsonian operations, additional funds were provided for high-priority needs, such as collection inventories and the multiple-mirror telescope. Appropriations also permitted substantial progress on the National Zoo Master Plan construction and on planning for the Museum Support Center in Suitland, Maryland. Congressional understanding and backing of the Institution's research and education programs are deeply appreciated.

In recent years, as these financial reports have indicated, the enthusiastic public acceptance of the Smithsonian Associates Pro-

gram and other educational auxiliary activities, as well as gifts and grants from individuals and foundations, have enabled the Institution to support a significant portion of its programs from nonappropriated funds. Net revenues from these sources declined in fiscal year 1979 but were sufficient to continue the \$2-million-per-year program established last year for major collections acquisition, scholarly studies, and educational outreach, as well as numerous operating allotments to Smithsonian bureaus and programs, and reserves for construction and land acquisition. But for the success of auxiliary activities, appropriations would have been sought for many of these projects. Because of favorable projections for unrestricted fund activities and as a measure to reduce directly the Smithsonian's costs to taxpayers, the Board of Regents approved the application this year of \$1 million of nonappropriated funds to support expenses for the Smithsonian fellowship program and costs of certain leased space that previously had been covered by appropriated funds. In recognition, however, that current financial successes are not guaranteed in the future, a transfer of the unrestricted fund surplus of over \$2.5 million to endowment was also authorized, in order to ensure the Institution's continued ability to provide nonappropriated funds for research and educational programs.

This combination of congressional and private financial support, of grant funds and earned revenues, has been a source of strength to the Institution in meeting its goals and seizing new opportunities. A major new priority of the Institution, the South Quadrangle, will seek to draw further on this dual public/private partnership. The anticipated financial plan for this project, which will include construction of an Oriental Gallery and a new building for the Museum of African Art in the area south of the Smithsonian "Castle," will rely on contributions, self-generated funds from auxiliary activities, and appropriated funds. As an initial commitment to the project, the Board of Regents authorized a transfer of \$1,385,000 to plant funds from unrestricted nonappropriated trust funds for ongoing and future planning and design effort. The government of Japan informed the Institution during the year that it will provide \$1 million towards construction of the Oriental Gallery.

In an ongoing effort to provide full financial information on Smithsonian activities in this report, minor changes have again been made in Table 1 and the supporting tables that follow.

TABLE 1. *Financial Summary*
(In \$1,000's)

	FY 1977	FY 1978	FY 1979
INSTITUTIONAL OPERATING FUNDS			
FUNDS PROVIDED			
Federal Appropriations—Salaries & Expenses	\$ 85,236	\$ 93,393	\$ 98,202
Federal Agency Grants & Contracts	10,515	11,157	11,412
Nonappropriated Trust Funds:			
For Restricted Purposes	4,407	6,538	4,577
For Unrestricted & Special Purposes:			
Auxiliary & Bureau Activities Revenues—Gross	41,884	55,189	67,360
—Less Related Expenses	(32,485)	(43,070)	(57,557)
Auxiliary & Bureau Activities Net Revenue ..	9,399	12,119	9,803
Investment, Gift, and Other Income	1,676	2,241	3,394
Total Net Unrest. & Special Purpose Revenue ..	11,075	14,360	13,197
Total Nonappropriated Trust Funds*—Gross ...	47,967	63,968	75,331
—Net	15,482	20,898	17,774
Total Operating Funds Provided—Gross	143,718	168,518	184,945
—Net	\$111,233	\$125,448	\$127,388
FUNDS APPLIED			
Science	\$ 46,513	\$ 50,396	\$ 53,002
—Less SAO Overhead Recovery	(1,599)	(1,841)	(1,850)
History & Art	17,639	19,105	20,245
Public Service	2,724	2,799	2,927
Museum Programs	6,820	7,454	8,003
Special Programs	2,248	1,981	2,692
Associates and Business Management	194	244	304
Administration—Federal**	5,851	6,346	7,071
—Nonappropriated Trust Funds	3,571	3,795	4,134
—Less Smithsonian Overhead Recovery	(2,993)	(3,359)	(4,038)
Facilities Services	22,325	25,985	27,790
Total Operating Funds Applied	103,293	112,905	120,280
Transfers (Nonappropriated Trust Funds)			
Unrestricted Funds—To Plant	559	869	1,857
—To Endowments	5,521	3,271	2,671
Restricted Funds—To Endowments	171	1,261	413
Total Operating Funds Applied & Transferred Out	\$109,544	\$118,306	\$125,221
CHANGES IN NONAPPROPRIATED TRUST FUND BALANCES			
Restricted Purpose (Incl. Fed. Agency Grants & Contracts)	\$ (194)	\$ 980	\$ 171
Unrestricted—General Purpose	8	850	33
—Special Purpose	1,875	5,312	1,963
Total	\$ 1,689	\$ 7,142	\$ 2,167
YEAR-END BALANCES—NONAPPROPRIATED TRUST FUNDS			
Restricted Purpose	\$ 3,560	\$ 4,540	\$ 4,900***
Unrestricted—General Purpose	4,082	4,932	4,965
—Special Purpose	4,292	9,604	11,567
Total	\$ 11,934	\$ 19,076	\$ 21,432
OTHER FEDERAL APPROPRIATIONS			
Smithsonian Science Information Exchange	\$ 1,972	\$ 1,857	\$ 2,063
Foreign Currency Program	3,481	4,000	3,700
Construction	9,530	5,250	6,575
Total Federal Appropriations (Incl. S&E above) ..	\$100,219	\$104,500	\$110,540

* Figures do not include gifts and other income directly to Plant and Endowment Funds:
FY 1977 - \$239,000; FY 1978 - \$185,000; FY 1979 - \$96,000.

** Includes unobligated funds returned to Treasury: FY 1977 - \$150,000; FY 1978 - \$112,000;
FY 1979 - \$47,000.

*** Includes addition to fund balance to reflect acquisition of Museum of African Art restricted purpose fund balance of \$189,000.

Operating Funds—Sources and Application

As indicated in Table 1, as well as the chart on page E-4, there has been substantial and sustained growth in gross operating revenues to the Institution in recent years. Total gross operating funds increased over \$16,000,000, or 10 percent, from \$168,518,000 in fiscal year 1978 to \$184,945,000 in fiscal year 1979. Federal appropriations constitute 53 percent of total gross operating funds provided, federal agency grants and contracts 6 percent, and nonappropriated funds 41 percent.

The growth in *net* operating funds, after deducting the necessary expenses of the nonappropriated fund auxiliary activities, was a more moderate 2 percent. These funds, available to support the wide range of Smithsonian programs, are 77 percent from federal appropriations, 9 percent from federal agency grants and contracts, and 14 percent from nonappropriated sources. Application of these monies by all Smithsonian bureaus is displayed in Table 2, with further supporting detail contained in other tables.

FEDERAL APPROPRIATION

Federal appropriations provided \$98,202,000 toward the Institution's operating needs in fiscal year 1979, an increase of \$4.8 million over the previous fiscal year. As in the past, much of this increase (\$3,300,000) was required to fund legislated salary increases; several program areas, however, received significant new funding, including an Institution-wide collections inventory program, the newly acquired Museum of African Art, the multiple-mirror telescope project of the Smithsonian Astrophysical Observatory, and the Research Awards Program. In addition, some \$160,000 was appropriated directly to the Smithsonian for programs previously supported through grants awarded by the National Endowments for the Arts and Humanities. As referred to above, \$1,000,000 of nonappropriated funds was applied in fiscal year 1979 to reduce the cost to the federal appropriation of leased space (\$400,000) and the Institution's fellowship program (\$600,000).

FEDERAL AGENCY GRANTS AND CONTRACTS

Grants and contracts from federal agencies totaled \$11,412,000 for fiscal year 1979, a slight increase over the previous year. These

funds, representing 9 percent of net operating revenue, continue to constitute a very important source of support for the Institution's research. As in previous years (see Table 3: Grants and Contracts—Expenditures), the National Aeronautics and Space Administration provided the majority of the awards (about 73 percent of the total), primarily for research and experimentation at the Smithsonian Astrophysical Observatory. Some examples of the projects supported by federal agency grants are: studies of biological systems in the Antarctic, research in medical entomology and establishment of a lower mammal tumor registry directed by the National Museum of Natural History, analysis of lunar geological features by the National Air and Space Museum, experiments in high-energy astronomy by the Smithsonian Astrophysical Observatory, and investigations of the chemical components of marsh water at the Chesapeake Bay Center for Environmental Studies.

NONAPPROPRIATED TRUST FUNDS

Nonappropriated trust funds continue to be the second-largest source of operating support for the Smithsonian. During fiscal year 1979, gross trust funds provided rose by 18 percent over fiscal year 1978; however, net funds provided, after deduction of costs incurred by central auxiliary and bureau activities, decreased 15 percent to a level of \$17,774,000, compared to \$20,898,000 in fiscal year 1978. This decrease was due to reduced gifts and grants for restricted purposes, as well as a decreased net revenue from auxiliary activities. The net revenue, for both restricted and unrestricted purposes, constitutes 14 percent of total net operating funds provided to the Institution.

Revenue for *Restricted* purposes totaled \$4,577,000 this past year (see Table 4) and was derived from gifts (\$1,775,000), investment income (\$2,075,000), and other sources (\$727,000), including fundraising activities of the Archives of American Art and the museum shop of the Freer Gallery of Art. Endowment investment income, as discussed below, provides major support for the Freer Gallery of Art and oceanographic research at the Fort Pierce Bureau, as well as funding a large number of specific research and educational projects annually. Major gift support was received during the year for important collection acquisitions at the Hirshhorn Museum and Sculpture Garden, National Collection of Fine Arts,

TABLE 2. Source and Application of Operating Funds
Year Ended September 30, 1979
(Excludes SSIE, Special Foreign Currency Funds, Plant Funds and Endowments)
(In \$1,000's)

Funds	Nonfederal Funds						
	Fed- eral funds	Total non- federal funds	Unrestricted			Restricted	
			Gen- eral	Aux- iliary activ- ities	Spe- cial pur- pose	Gen- eral	Grants and con- tracts
FUND BALANCES—							
1 October 1978	\$ -0-	\$ 19,076	\$ 4,932	\$ -0-	\$ 9,604	\$ 4,428	\$ 112
FUNDS PROVIDED							
Federal Appropriations	98,202	—	—	—	—	—	—
Investment Income	—	4,605	2,276	—	254	2,075	—
Grants and Contracts	—	11,412	—	—	—	—	11,412
Gifts	—	2,457	163	475	44	1,775	—
Sales and Revenue	—	66,885	—	64,846	2,039	—	—
Other	—	1,384	40	—	617	727	—
Total Provided	98,202	86,743	2,479	65,321	2,954	4,577	11,412
Total Available	\$98,202	\$105,809	\$ 7,411	\$65,321	\$12,558	\$ 9,005	\$11,524
FUNDS APPLIED							
<i>Science:</i>							
Assistant Secretary	\$ 294	\$ 237	\$ 46	\$ —	\$ 4	\$ 21	\$ 166
Natl. Mus. of Nat. History ..	13,248	2,319	116	—	703	519	981
Astrophysical Observatory ..	4,803	11,663	1,883	—	180	65	9,535
Less Overhead Recovery ..	—	(1,850)	(1,850)	—	—	—	—
Tropical Research Inst.	2,025	215	55	—	133	26	1
Radiation Biology Lab.	1,714	158	—	—	36	18	104
Natl. Air & Space Museum ..	5,363	1,481	40	—	1,192	167	82
Chesapeake Bay Center	672	529	259	—	114	4	152
Natl. Zoological Park	7,854	297	48	—	92	54	103
Center for Study of Man	550	89	1	—	—	62	26
Fort Pierce Bureau	—	504	—	—	—	504	—
Total Science	36,523	15,642	598	—	2,454	1,440	11,150
<i>History and Art:</i>							
Assistant Secretary	290	79	61	—	1	—	17
Natl. Mus. of Hist. & Tech. ..	6,421	585	26	—	313	251	(5)
Natl. Collect. of Fine Arts ..	3,069	611	49	—	290	272	—
Natl. Portrait Gallery	2,265	292	122	—	18	147	5
Hirshhorn Museum	2,080	459	62	—	387	10	—
Freer Gallery of Art	554	1,072	17	—	—	1,055	—
Archives of American Art ..	459	341	—	—	40	301	—
Cooper-Hewitt Museum	467	1,434	302	—	690	346	96
Museum of African Art	100	25	—	—	12	13	—
Total History and Art	15,705	4,898	639	—	1,751	2,395	113
<i>Public Service:</i>							
Assistant Secretary	256	313	284	—	27	2	—
Reception Center	—	238	238	—	—	—	—
Anacostia Museum	556	28	21	—	6	1	—
Intl. Exchange Service	232	—	—	—	—	—	—
Performing Arts	294	3,139	140	2,903	24	—	72
Smithsonian Press	774	1,690	—	1,690	—	—	—
Exposition Books	—	2,841	—	2,841	—	—	—
Total Public Service ..	2,112	8,249	683	7,434	57	3	72

TABLE 2. *Source and Application of Operating Funds—continued*
Year Ended September 30, 1979
(Excludes SSIE, Special Foreign Currency Funds, Plant Funds and Endowments)
(In \$1,000's)

Funds	Fed- eral funds	Total non- federal funds	Nonfederal Funds				
			Unrestricted			Restricted	
			Gen- eral	Aux- iliary activ- ities	Spe- cial pur- pose	Gen- eral	Grants and con- tracts
<i>Museum Programs:</i>							
Assistant Secretary	2,095	127	22	—	85	20	—
Registrar	107	—	—	—	—	—	—
Conserv. Analytical Lab.	627	—	—	—	—	—	—
Libraries	2,397	152	152	—	—	—	—
Exhibits	1,167	26	—	—	19	7	—
Traveling Exhib. Service	145	881	1	820	24	4	32
Archives	324	30	29	—	1	—	—
National Museum Act	792	—	—	—	—	—	—
Total Museum Programs	7,654	1,216	204	820	129	31	32
<i>Special Programs:</i>							
Am. Studies & Folklife Pgm.	346	358	212	—	67	13	66
Intl. Environmental Pgm. ...	382	—	—	—	—	—	—
Academic & Educational Pgm.	451	294	92	—	176	26	—
Research Awards	386	—	—	—	—	—	—
Collection Mgt./Inventory ...	482	—	—	—	—	—	—
Total Special Programs	2,047	652	304	—	243	39	66
Associates Program	—	34,554	245	34,249	1	4	55
Business Management	—	13,199	—	13,199	—	—	—
Administration	7,024	4,569	4,007	419	70	71	2
Less Overhead Recovery ..	—	(4,038)	(4,038)	—	—	—	—
Facilities Services	27,090	694	701	—	(7)	—	—
<i>Transfers Out/(In):</i>							
Treasury	47*	—	—	—	—	—	—
Coll. Acq., Schol. St., Outrch.	—	—	2,000	—	(2,000)	—	—
Liability Reserves	—	—	500	—	(500)	—	—
Net Auxiliary Activities	—	—	(8,803)	8,803	—	—	—
Other Designated Purposes ..	—	—	982	397	(1,311)	(68)	—
Plant	—	1,857	1,853	—	4	—	—
Endowment	—	3,084	2,571	—	100	413	—
Total Transfers	47	4,941	(897)	9,200	(3,707)	345	—
Total Funds Applied ..	\$98,202	\$ 84,576	\$ 2,446	\$65,321	\$ 991	\$4,328	\$11,490
Adjustment to Opening Bal. ** \$	—	\$ 189	\$ —	\$ —	\$ —	\$ 187	\$ 2
FUND BALANCES 9/30/79.. \$	-0-	\$ 21,432	\$ 4,965	\$ —	\$11,567	\$4,864	\$ 36

* Unobligated funds returned to Treasury.

** Addition to fund balance to reflect acquisition of Museum of African Art fund balance of \$189,000.

TABLE 3. *Grants and Contracts—Expenditures*
(In \$1,000's)

<i>Federal Agencies</i>	<i>FY 1977</i>	<i>FY 1978</i>	<i>FY 1979</i>
Department of Defense	\$ 998	\$ 968	\$ 1,079
Department of Energy	157	266	304
Department of Health, Education, and Welfare	282	311	288
Department of Interior	155	4	65
Department of State	282	15	—
Environmental Protection Agency	452	422	31
National Aeronautics and Space Administration	6,346	7,324	8,336
National Endowments for the Arts and Humanities	356	226	105
National Science Foundation	315	400	385
Other	1,228	1,151	897
Total	<u>\$10,571</u>	<u>\$11,087</u>	<u>\$11,490</u>

and the National Museum of Natural History; for documentation of the Catalogue of American Portraits at the National Portrait Gallery; for exhibits at the Cooper-Hewitt Museum and the National Museum of History and Technology; and for a range of research and other projects supporting virtually every aspect of Smithsonian interests.

The *Special Purpose* fund category of Unrestricted Nonappropriated Funds includes moneys generated by various bureau activities, and allotments to bureaus as shares of income from shops and concession activities. Table 5 details the source and application of these funds by bureaus. The major sources of revenues are the National Air and Space Museum, with a new film, *Living Planet*, drawing large attendance at its theater, and the Cooper-Hewitt Museum in New York, which enjoys continued success with its membership and educational programs, fundraising auction, and museum shop sales. Also accounted for as transfers to special purpose funds are the allocations authorized for Collections Acquisition, Scholarly Studies, and Educational Outreach (\$2,000,000); the fellowship program, previously funded from federal appropriations (\$600,000); a reserve for potential magazine liabilities; and support

TABLE 4. *Restricted Operating Trust Funds* Fiscal Years 1977-1979*
(In \$1,000's)

Item	Revenue			Total rev- enue	Deduc- tions	Trans- fers in (out)	Net in- crease (de- crease)	Fund bal- ance end of year
	Invest- ment	Gifts	Misc.					
FY 1977—Total	\$1,690	\$1,724	\$ 993	\$4,407	\$4,901	\$ 354	\$ (140)	\$3,518
FY 1978—Total	\$2,022	\$3,478	\$1,038	\$6,538	\$4,367	\$ (1,261)	\$ 910	\$4,428
FY 1979:								
Museum of								
Natural History	\$ 166	\$ 315	\$ 7	\$ 488	\$ 519	\$ 140	\$ 109	\$ 547
Astrophysical								
Observatory	2	16	1	19	65	150	104	36
National Air and								
Space Museum	101	10	—	111	167	(10)	(66)	946
Fort Pierce Bureau	610	—	—	610	504	(340)	(234)	142
Other Science	243	109	1	353	185	(350)	(182)	295
Museum of History								
and Technology	35	217	(10)	242	251	7	(2)	365
National Collection								
of Fine Arts	37	227	(11)	253	272	54	35	179
National Portrait Gallery	23	99	2	124	147	14	(9)	332
Hirshhorn Museum	32	237	—	269	10	—	259	512
Freer Gallery of Art	756	57	334	1,147	1,055	—	92	352
Archives of								
American Art	14	96	356	466	301	—	165	340
Cooper-Hewitt Museum.	41	290	10	341	346	—	(5)	322
Museum of African Art.	—	—	—	—	13	—	(13)	174
All Other	15	102	37	154	148	(10)	(4)	322
Total FY 1979 ...	\$2,075	\$1,775	\$ 727	\$4,577	\$3,983	\$ (345)	\$ 249	\$4,864**

* Does not include Federal Agency Grants and Contracts.

** Includes addition to fund balance to reflect acquisition of Museum of African Art fund balance of \$187,000.

for a number of other Institutional endeavors. Due to the success of its bureau activities, the National Air and Space Museum was able during the year to make a further transfer of \$100,000 to the Lindbergh Chair of Aerospace History Endowment Fund, for a total amount transferred of \$350,000 to date toward a goal of \$900,000.

TABLE 5. Unrestricted Special Purpose Funds
Fiscal Years 1977-1979
(In \$1,000's)

Item	Revenue					Deductions			
	Invest- ment	Bu- reau activ- ities	Gifts and other reve- nue	Total reve- nue	Trans- fers in/(out)	Pro- gram ex- pense	Bu- reau activ- ity ex- pense	Net in- crease (de- crease)	Fund bal- ance end of year
FY 1977	\$ 3	\$1,721	\$387	\$2,111	\$ 828	\$ 447	\$ 617	\$1,875	\$4,292
FY 1978	\$175	\$1,327	\$506	\$2,008	\$5,450	\$1,284	\$ 862	\$5,312	\$9,604
FY 1979:									
Museum of									
Natural History..	\$ 11	\$ 2	\$ 53	\$ 66	\$ 542	\$ 696	\$ 7	\$ (95)	\$ 345
Astrophysical									
Observatory	1	—	29	30	298	180	—	148	321
Tropical Research									
Institute	—	40	—	40	107	87	46	14	90
National Air and									
Space Museum ..	130	1,284	13	1,427	16	241	951	251	2,181
National Zoological									
Park	44	—	139	183	104	92	—	195	813
Other Science	1	7	20	28	150	145	9	24	145
Museum of History									
and Technology ..	24	4	61	89	232	299	14	8	456
National Collection									
of Fine Arts	11	2	79	92	103	290	—	(95)	108
Hirshhorn Museum.	7	—	6	13	394	387	—	20	141
Cooper-Hewitt									
Museum	2	542	145	689	1	355	335	—	3
Museum of									
African Art	—	17	—	17	(4)	—	12	1	1
Exhibits Central ...	2	1	5	8	—	34	(15)	(11)	36
Liability Reserves ..	—	—	—	—	500	—	—	500	2,400
Unallocated Acqui-									
sition, Schol. St.,									
and Outreach	—	—	—	—	345	—	—	345	1,386
Collections Acq.									
Reserve	—	—	—	—	—	—	—	—	2,000
Support Activities									
and Other	21	140	111	272	919	456	77	658	1,141
FY 1979 Total	\$254	\$2,039	\$661	\$2,954	\$3,707	\$3,262	\$1,436	\$1,963	\$11,567

General Unrestricted Purpose funds include all unrestricted moneys provided for general Institutional purposes, including auxiliary activity revenues (Tables 6 and 7). Net General Unrestricted Purpose funds provided were lower in fiscal year 1979 than the prior year by approximately \$1,500,000 (see Table 6). While investment income was substantially higher, due both to rising short-term interest rates as well as to prior-year additions to unrestricted endowment, the net gains from auxiliary activities declined by almost \$2,500,000. Contributing to this decrease were the application, for the first time, of rental charges to auxiliary activities occupying space in Smithsonian buildings, higher central administrative overhead fees, and severe inflationary cost pressures. As shown in Table 7, the majority of auxiliary activity revenue comes from the Associates Program, primarily through the *Smithsonian* magazine, which continues to enjoy a widespread and enthusiastic reception. Also important in generating net revenue for other Institutional needs are Smithsonian Exposition Books, which benefitted this past year from the newly published *Smithsonian Book of Invention* as well as continued sales of earlier publications, and the Division of Performing Arts, which released nine recordings for sale to the public. The decline in net revenue from the Museum Shops, due to continued start-up costs of the Mail Order Division, was offset by the gain of the Smithsonian Institution Press, primarily from its mail sales of the new book *The National Air and Space Museum*. Significant financial support was also received from public concessions in various Smithsonian buildings.

Notwithstanding this decline in unrestricted funds provided, the Institution was able to continue the support of numerous programs and central administrative units with these funds. Major operating support was provided to the Cooper-Hewitt Museum, the Office of American and Folklife Studies, the Office of Fellowships and Grants, the Visitor Information and Associates Reception Center, and the Office of Telecommunications, in addition to a large number of small allocations to other bureaus of the Institution. Awards for program support, including collections acquisitions, were made to the Freer Gallery of Art, the National Air and Space Museum, the Smithsonian Tropical Research Institute, the Reception Center, the National Museum of History and Technology, and the National Portrait Gallery from funds raised by the Smithsonian Society

TABLE 6. *Unrestricted Trust Funds—General and
Auxiliary Activities Fiscal Years 1977–1979*
(In \$1,000's)

<i>Item</i>	<i>FY 1977</i>	<i>FY 1978</i>	<i>FY 1979</i>
FUNDS PROVIDED			
General Income:			
Investments	\$1,154	\$ 1,400	\$ 2,276
Gifts	48	112	163
Miscellaneous	84	48	40
Total General Income	<u>1,286</u>	<u>1,560</u>	<u>2,479</u>
Auxiliary Activities (net):			
Associates	6,580	7,656	6,429
Business Management			
—Museum Shops	828	738	287
—Concessions	1,651	1,567	1,641
—Other	(112)	(169)	(245)
Performing Arts	(343)	253	177
Smithsonian Press	(108)	(199)	292
Exposition Books	(131)	2,105	1,036
Traveling Exhibitions	(79)	(112)	(142)
Photo Services	9	(185)	(275)
Total Auxiliary Activities	<u>8,295</u>	<u>11,654</u>	<u>9,200</u>
Total Funds Provided (Net)	<u>9,581</u>	<u>13,214</u>	<u>11,679</u>
EXPENDITURES AND TRANSFERS			
Administrative and Program Expense	6,735	7,974	9,231
Less Administrative Recovery	<u>4,592</u>	<u>5,200</u>	<u>5,888</u>
Net Expense	<u>2,143</u>	<u>2,774</u>	<u>3,343</u>
Less Transfers:			
To Special Purpose and Restricted Funds for Program Purposes	1,350	5,700	3,879
To Plant Funds	559	869	1,853
To Endowment Funds	<u>5,521</u>	<u>3,021</u>	<u>2,571</u>
NET ADDITION TO FUND BALANCE ...	<u>8</u>	<u>850</u>	<u>33</u>
ENDING FUND BALANCE	<u>\$4,082</u>	<u>\$ 4,932</u>	<u>\$ 4,965</u>

TABLE 7. *Auxiliary Activities Fiscal Years 1977-1979*

(In \$1,000's)

<i>Activity</i>	<i>Sales and other revenue</i>	<i>Gifts</i>	<i>Less cost of sales</i>	<i>Gross revenue</i>	<i>Ex- penses</i>	<i>Net revenue*** (loss)</i>
FY 1977	\$39,786	\$377	\$18,129	\$22,034	\$13,739	\$ 8,295
FY 1978	\$53,420	\$442	\$23,536	\$30,326	\$18,672	\$11,654
FY 1979:						
Associates	\$40,203	\$475	\$22,395	\$18,283	\$11,854	\$ 6,429
Business Management:						
—Museum Shops*	12,879	—	6,477	6,402	6,115	287
—Concessions	1,748	—	—	1,748	107	1,641
—Other **	255	—	—	255	500	(245)
Performing Arts	3,080	—	875	2,205	2,028	177
Smithsonian Press	1,982	—	751	1,231	939	292
Exposition Books	3,877	—	1,364	2,513	1,477	1,036
Traveling Exhibitions	678	—	—	678	820	(142)
Photo Services (Administration)	144	—	22	122	397	(275)
Total FY 1979	\$64,846	\$475	\$31,884	\$33,437	\$24,237	\$ 9,200

* Includes Museum Shops, Product Development, Mail Order.

** Includes Business Management Office, Belmont.

*** Before revenue-sharing transfers to participating Smithsonian bureaus of \$438,000 (FY 1977); \$390,000 (FY 1978); and \$397,000 (FY 1979).

of the Associates. Other allotments this year provided for the full equipping of the new Laboratory Wing at the Chesapeake Bay Center for Environmental Studies and the renovation of the Discovery Theatre in the Arts and Industries Building, at which puppet shows are held, primarily for younger visitors. As referred to above, the Regents authorized continuation of the \$2,000,000 annual program for major collections acquisitions (\$1,000,000), scholarly studies (\$500,000), and educational outreach (\$500,000). These moneys are reserved in the Special Purpose Funds until expended by the recipient Smithsonian bureaus.

Other major applications of unrestricted funds were transfers of over \$1,800,000 to Plant Funds (discussed below) and the addition of over \$2,500,000 to unrestricted endowment funds.

Other Operating Programs

Separate federal appropriations are also received for the Smithsonian Special Foreign Currency Program, which provides grants to United States institutions for field research in other countries in which "excess" foreign currencies are available, and the Smithsonian Science Information Exchange, which serves as a national source for the exchange of information on research in progress. The fiscal year 1979 appropriation for the Special Foreign Currency Program totaled \$3,700,000, or \$300,000 less than provided in fiscal year 1978. This amount reflected an increase of \$700,000 for grant awards and a reduction of \$1,000,000 for the United States' contribution to the campaign to save the Egyptian monuments at Nubia, the fourth and final payment of which was made in fiscal year 1978. The general areas of research and geographical activities of this program are contained in Table 8.

The Smithsonian received an appropriation for the Smithsonian Science Information Exchange of \$2,063,000 in fiscal year 1979, an increase of some \$200,000 over the previous fiscal year. This increase covered essentially the cost of inflation experienced over the past few years.

Construction

The Institution received a federal planning and construction appropriation of \$6,575,000 in fiscal year 1979, somewhat higher than that provided in the previous year. As shown in Table 9, the greater part of this appropriation was for the National Zoological Park, \$3,000,000 for construction of the Great Ape House, an important part of the National Zoo's continuing Master Plan, and \$900,000 for restoration and renovation of existing structures at Rock Creek Park and Front Royal. A further \$2,100,000 was appropriated for ongoing repair to all other Smithsonian facilities, including phased projects to improve access for handicapped visitors, to correct existing hazardous conditions, to continue facade and roof repairs, and to improve fire-detection and -suppression systems. Finally, \$575,000 was appropriated for use in association with fiscal

TABLE 8. *Special Foreign Currency Program*
Fiscal Year 1979—Obligations

Country	Archae- ology	System- atic and environ- mental biology	Astro- physics and earth sciences	Museum pro- grams	Grant admin- istra- tion	Total
Burma	\$ —	\$ 4,157	\$ —	\$ —	\$ —	\$ 4,157
Egypt	1,173,568	28,490	130,588	15,317	50,000	1,397,963
India	1,536,674	134,536	50,167	80,803	16,702	1,818,882
Pakistan	4,406	237,617	—	1,145	266	243,434
Guinea	—	—	—	1,104	—	1,104
Total	<u>\$2,714,648</u>	<u>\$404,800</u>	<u>\$180,755</u>	<u>\$98,369</u>	<u>\$66,968</u>	<u>\$3,465,540*</u>

* An additional amount of \$182,000 was obligated by the National Science Foundation, Science Information Program, for translations and printing of scientific publications requested by the Smithsonian Institution.

TABLE 9. *Construction and Plant Funds Fiscal Years 1977–1979*
(In \$1,000's)

Sources	FY 1977	FY 1978	FY 1979
FUNDS PROVIDED			
Federal Appropriations			
National Zoological Park	\$ 6,580	\$2,500	\$3,900
Museum Support Center	—	325	575
Restoration & Renovation of Buildings..	2,950	2,425	2,100
Total Federal Appropriations	<u>9,530</u>	<u>5,250</u>	<u>6,575</u>
Nonappropriated Trust Funds			
Income—Gift and Other			
Cooper-Hewitt Museum	3	60	—
Chesapeake Bay Center	2	—	—
South Quadrangle	—	—	5
Total Income	<u>5</u>	<u>60</u>	<u>5</u>
Transfers from Current Funds:			
Barney House	—	70	—
Chesapeake Bay Center	95	344	411
Cooper-Hewitt Museum	195	(10)	—
Museum of African Art	—	—	4
NMNH—West Court & Shops	269	—	—
National Zoological Park	—	110	—
Renwick Gates (Victorian Garden) ...	—	225	—
Sensory and East Gardens	—	100	10
South Quadrangle	—	30	1,385
Tropical Research Institute	—	—	47
Total Transfers	<u>559</u>	<u>869</u>	<u>1,857</u>
Total Funds Provided	<u>\$10,094</u>	<u>\$6,179</u>	<u>\$8,437</u>

year 1978 funds for architectural and engineering planning for the Museum Support Center. Construction of this facility, which will provide 302,000 gross square feet of storage, office, laboratory, and conservation space, is scheduled to begin in fiscal year 1980. The Institution is being assisted by the General Services Administration in the management of the design and construction of this project.

A total of \$1,857,000 was allocated to construction and land purchase from nonappropriated trust funds during the year, the majority of which (\$1,385,000) was for development of the South Quadrangle, described more fully above. A total of \$135,000 was transferred to this project for development of a conceptual study and preliminary engineering surveys, and the remaining \$1,250,000 will fund architectural plans in fiscal year 1981. The South Quadrangle will be a major funding priority, for both appropriated and nonappropriated funds, in the future.

Additional support (\$411,000) was provided for continued land acquisition at the Chesapeake Bay Center for Environmental Studies, and minor transfers to plant funds were also made for other construction projects.

Endowment and Similar Funds

The total market value of the Smithsonian Endowment Funds was \$66,619,000 on September 30, 1979, as compared to \$58,097,000 on September 30, 1978. These funds include \$65,556,000 invested in the Pooled Consolidated Endowment Fund, \$1,000,000 on permanent deposit in the United States Treasury, and \$63,000 of miscellaneous securities. Of this total, \$44,097,000 (66 percent) are Restricted Endowment Funds, with income to be used only for the purposes specified by the donor, and \$22,522,000 (34 percent) are Unrestricted Funds for the general support of the Institution (see Table 10). Table 13 is a listing of the Institution's Endowment Funds, the largest of which are the Freer Fund, supporting the operations of the Freer Gallery of Art, and Endowment Fund No. 3,

TABLE 10. *Endowment and Similar Funds September 30, 1979*

	<i>Book value</i>	<i>Market value</i>
ASSETS		
Pooled Consolidated Endowment Funds:		
Cash and Equivalents	\$ 504,075	\$ 504,075
Bonds	18,142,328	17,609,648
Convertible Bonds	1,579,425	2,057,125
Stocks	37,200,331	45,384,900
Total Pooled Funds	<u>57,426,159</u>	<u>65,555,748</u>
Nonpooled Endowment Funds:		
Notes Receivable	40,308	40,308
Loan to U.S. Treasury in Perpetuity	1,000,000	1,000,000
Bonds	9,769	9,100
Common Stocks	3,572	14,307
Total Nonpooled Funds	<u>1,053,649</u>	<u>1,063,715</u>
Total Endowment and Similar Fund Balances ..	<u>\$58,479,808</u>	<u>\$66,619,463</u>
FUND BALANCES		
Unrestricted Purpose: True Endowment	\$ 953,185	\$ 1,417,063
Quasi Endowment	19,579,590	21,105,273
Total Unrestricted Purpose	<u>20,532,775</u>	<u>22,522,336</u>
Restricted Purpose: True Endowment	34,349,831	40,277,533
Quasi Endowment	3,597,202	3,819,594
Total Restricted Purpose	<u>37,947,033</u>	<u>44,097,127</u>
Total Endowment and Similar Fund Balances ..	<u>\$58,479,808</u>	<u>\$66,619,463</u>

used for oceanographic research. The remainder of the Restricted and Unrestricted Funds support a wide variety of Institutional research and museum projects.

The Pooled Consolidated Endowment Fund is invested under the management of four professional advisory firms under the close supervision of the Investment Policy Committee and the Treasurer, subject to policy guidelines set by the Smithsonian's Board of Regents. These firms (with the portion of the Fund under their management) are BEA, Incorporated (23 percent), Batterymarch Financial Management Corp. (25 percent), Fiduciary Trust Co. of New York (43 percent), and Torray Clark & Company, Inc. (9 percent). During fiscal year 1979, the total rate of return of these

funds, as calculated by an independent investment measurement service, was +14.3 percent (including interest and dividend yield as well as market value appreciation), compared to +12.5 percent for the Standard & Poor's 500 average and +7.8 percent for the Dow Jones Industrial Average.

As outlined in prior reports, the Institution follows the Total Return policy, under which the total investment return of the Endowments is defined as yield (interest and dividends) plus appreciation (realized and unrealized gains). A prudent portion of this return is paid to each Endowment as income for current expenditures. Since 1973, this income payout has been at the rate of 4½ percent of the running five-year average of endowment market values, adjusted for additions or withdrawals of capital. During fiscal year 1979, the Board of Regents amended this policy to provide that the annual total return income payout set each year would be based not solely on the five-year market average but would also take into account anticipated dividend and interest yields, support needs of the Institution's bureaus, and inflationary factors. In accordance with these principles, and due largely to the increased yield of both debt and equity investments, the total return income payout approved by the Board of Regents for fiscal year 1979 was equivalent to 4.7 percent of the five-year market average. Even at this level, the payout was \$989,000 less than interest and dividends, and this difference was therefore reinvested into Endowment principal, in contrast to prior years, in which appropriation of capital gains was required to meet the required total return payout.

Included on Table 12 as additions to the Endowments were restricted gifts of \$91,000, primarily for the Harold P. Stern Memorial Fund, a transfer to Unrestricted Endowment Funds of \$2,650,000 approved by the Board of Regents, and additional transfers representing reinvestment of Endowment income pursuant to the terms of individual Endowments.

A listing of the securities held in the Pooled Consolidated Endowment Fund as of September 30, 1979, may be obtained upon request from the Treasurer of the Institution.

TABLE 11. Market Values of Pooled Consolidated Endowment Funds
(In \$1,000's)

<i>Fund</i>	<i>6/30/75</i>	<i>9/30/76</i>	<i>9/30/77</i>	<i>9/30/78</i>	<i>9/30/79</i>
Unrestricted	\$ 5,654	\$ 7,477	\$11,695	\$17,206	\$21,625
Freer	15,744	16,035	15,410	16,807	18,303
Endowment No. 3	12,321	12,701	12,343	13,462	15,022
Restricted ¹	7,148	7,420	7,431	9,555	10,606
Total	<u>\$40,867</u>	<u>\$43,633</u>	<u>\$46,879</u>	<u>\$57,030</u>	<u>\$65,556</u>

TABLE 12. Changes in Pooled Consolidated Endowment Funds
for Fiscal Year 1979
(In \$1,000's)

<i>Fund</i>	<i>Market value 9/30/78</i>	<i>Gifts and trans- fers</i>	<i>Inter- est and divi- dends*</i>	<i>Income paid out</i>	<i>Sub- total</i>	<i>In- crease in market value</i>	<i>Market value 9/30/79</i>
Unrestricted	\$17,206	\$2,650	\$1,109	\$ 794	\$20,171	\$1,454	\$21,625
Freer	16,807	—	1,005	722	17,090	1,213	18,303
Endowment No. 3..	13,462	340	813	584	14,031	991	15,022
Restricted	9,555	188	578	416	9,905	701	10,606
Total	<u>\$57,030</u>	<u>\$3,178</u>	<u>\$3,505</u>	<u>\$2,516</u>	<u>\$61,197</u>	<u>\$4,359</u>	<u>\$65,556</u>

* Income earned less managers' fees.

TABLE 13. Endowment Funds September 30, 1979

Funds	Principal		Income	
	Book value	Market value	Net income	Unexpended balance
UNRESTRICTED PURPOSE—TRUE				
Avery, Robert S. and Lydia*	\$ 73,006	\$ 103,395	\$ 4,370	\$ -0-
Habel, Dr. S.*	500	500	30	-0-
Hamilton, James*	3,098	3,480	189	-0-
Higbee, Harry*	20,696	30,995	1,184	-0-
Morrow, Dwight W.	115,505	175,237	6,920	-0-
Mussinani, Alfred	39,375	51,246	2,024	-0-
Olmsted, Helen A.	1,247	1,789	71	-0-
Poore, George W. and Lucy T.*	269,469	400,227	16,351	-0-
Porter, Henry Kirke	427,858	647,085	25,552	-0-
Sanford, George H.*	2,431	3,109	145	-0-
Subtotal	953,185	1,417,063	56,836	-0-
UNRESTRICTED PURPOSE—QUASI				
Abbot, William L.	29,331	35,143	1,388	-0-
Forrest, Robert Lee	2,152,881	1,950,046	77,004	-0-
General Endowment*	16,045,105	17,679,494	656,849	-0-
Goddard, Robert H.	17,029	15,443	610	-0-
Hackenberg, George P. and Caroline	7,903	9,906	391	-0-
Hart, Gustavus E.	959	1,155	46	-0-
Henry, Caroline	2,381	2,850	113	-0-
Henry, Joseph and Harriet A.	96,283	114,003	4,502	-0-
Heys, Maude C.	204,487	189,750	7,493	-0-
Hinton, Carrie Susan	51,162	55,440	1,642	-0-
Hodgkins, Thomas G.*	175,471	186,260	9,734	-0-
Lambert, Paula C.	90,813	101,837	4,021	-0-
Lindbergh Chair of Aerospace History (Dedicated)	356,370	371,971	10,740	-0-
Medinus, Grace L.	2,017	1,887	74	-0-
Rhees, William Jones*	1,520	1,695	79	-0-
Safford, George H.	91,872	88,632	3,500	-0-
Taggart, Gansen	735	1,080	43	-0-
Witherspoon, Thomas A.	253,271	298,681	11,794	-0-
Subtotal	19,579,590	21,105,273	790,023	-0-
Total Unrestricted Purpose	\$20,532,775	\$22,522,336	\$ 846,850	\$ -0-
RESTRICTED PURPOSE—TRUE				
Arthur, James	\$ 59,743	\$ 90,534	\$ 3,575	\$ 848
Baird, Spencer Fullerton	54,903	80,928	3,196	170
Barney, Alice Pike	42,848	64,878	2,562	9,201
Beauregard, Catherine, Memorial Fund	76,883	90,661	3,580	10,439
Brown, Roland W.	50,988	62,221	2,457	10,605
Canfield, Frederick A.	56,289	99,748	3,939	3,131
Chamberlain, Frances Lea	42,070	63,701	2,515	8,266
Cooper, G. Arthur, Curator's Fund ..	13,918	15,573	530	4
Div. of Mammals Curator Fund	3,405	3,815	151	2,820
Div. of Reptiles Curator Fund	2,359	2,650	102	286
Drake, Carl J.*	313,675	336,679	13,173	28,704
Eickenmeyer, Florence Brevoort	16,239	24,579	971	7,895
Endowment No. 3	13,010,009	15,022,092	588,334	142,257
Freer	15,561,540	18,302,629	722,825	295,569
Guggenheim, David and Florence ...	237,713	233,601	9,225	-0-
Henderson, Edward P., Meteorite Fund	606	805	32	180
Hewitt, E. G.	13,838	14,687	580	-0-
Hewitt, S. C.	81,925	86,691	3,423	-0-
Hitchcock, Albert S.	2,354	3,627	143	631
Hodgkins, Thomas G.*	100,000	100,000	6,000	5,521
Hrdlicka, Ales and Marie	92,352	112,712	4,451	6,651
Hughes, Bruce	28,592	43,350	1,712	13,410
Kramar, Nada	5,292	5,925	234	805

TABLE 13. *Endowment Funds September 30, 1979—Continued*

Funds	Principal		Income	
	Book value	Market value	Net income	Unexpended balance
Lindsey, Jessie A.*	11,107	10,595	789	2,619
Long, Annette E. and Edith C.	810	1,262	50	205
Maxwell, Mary E.	29,299	44,416	1,754	9,100
Milliken, Oothout H.	409	432	17	-0-
Mineral Endowment	184,504	199,472	7,877	3,796
Mitchell, William A.	25,061	27,288	1,078	1,179
Natural History and Conservation ...	22,406	24,959	826	2
Nelson, Edward William	35,785	50,297	1,986	-0-
Petrocelli, Joseph, Memorial	11,069	16,847	665	11,352
Roebing Collection	180,543	271,701	10,729	12,420
Rollins, Miriam and William	331,009	434,241	16,962	9,045
Sprague, Joseph White	2,404,176	2,597,198	101,454	21,284
Springer, Frank	27,068	40,544	1,601	22,220
Stern, Harold P., Memorial	218,100	240,672	8,151	11,018
Stevenson, John A.	9,469	11,077	437	529
Walcott, Charles D.	213,816	269,867	10,540	2,822
Walcott, Charles D. and Mary Vaux..	689,467	1,046,258	41,388	12,093
Walcott Botanical Publications*	86,779	126,190	4,983	7,890
Zerbee, Francis Brinckle	1,413	2,132	84	2,220
Subtotal	34,349,831	40,277,534	1,585,081	677,187
RESTRICTED PURPOSE—QUASI				
Abbott, William L.	204,601	241,264	9,527	-0-
Armstrong, Edwin James	5,033	5,266	203	-0-
Au Panier Fleuri	41,191	37,516	1,481	-0-
Bacon, Virginia Purdy	179,135	188,293	7,435	25,527
Barstow, Frederic D.	1,961	2,310	91	2,552
Batchelor, Emma E.	65,377	67,109	2,650	22,417
Becker, George F.	307,719	325,901	12,869	57,809
Casey, Thomas Lincoln	24,607	29,066	1,148	2,305
Desautels, Paul E.	16,898	20,524	793	4
Dykes, Charles	84,513	99,778	3,940	17,099
Hanson, Martin Gustav and Caroline Runice	17,452	20,603	814	2,472
Hillyer, Virgil	12,903	15,242	602	3,920
Johnson, E. R. Fenimore	15,898	15,255	602	8,841
Kellogg, Remington, Memorial	48,179	45,529	1,798	6,162
Lindbergh, Charles A.	6,308	7,330	640	1,870
Loeb, Morris	171,417	204,340	8,069	5,248
Lyons, Marcus Ward	8,528	8,236	325	-0-
Myer, Catherine Walden	39,663	46,832	1,849	3,179
Noyes, Frank B.	1,904	2,360	93	1,929
Noyes, Pauline	19,391	17,678	698	-0-
Pell, Cornelia Livingston	14,566	17,289	683	1,879
Ramsey, Admiral and Mrs. Dewitt Clinton*	568,463	558,902	22,683	10,474
Rathbun, Richard, Memorial	20,896	24,772	979	13,159
Reid, Addison T.*	45,915	52,220	2,288	8,871
Roebing Solar Research	48,546	53,260	2,103	405
Ruef, Bertha M.	62,000	59,448	2,348	1,912
Schultz, Leonard P.	15,234	17,920	1,070	9,379
Seidell, Atherton	1,223,827	1,287,577	51,985	57,478
Smithsonian Agency Account	305,436	324,495	12,505	9,486
Strong, Julia D.	19,641	23,278	919	1,039
Subtotal	3,597,202	3,819,593	153,190	275,416
Total Restricted Purpose	\$37,947,033	\$44,097,127	\$1,738,271	\$952,603
TOTAL ENDOWMENT FUNDS	\$58,479,808	\$66,619,463	\$2,585,130**	\$952,603

* Invested all or in part in U.S. Treasury or other nonpooled investments.

** Total Return Income Payout; does not include \$84,000 of interest income for investment of unexpended income balances.

Related Organizations

The Smithsonian Science Information Exchange, Inc., was incorporated by the Smithsonian in 1971 as a separate nonprofit entity. Its purpose is to facilitate the planning, management, and coordination of the nation's research efforts through the collection, processing, and dissemination of information about ongoing research. In addition to an annual contract from the Smithsonian, equal to the appropriation provided the Smithsonian for this purpose, the exchange also receives substantial revenues from users of its services. In fiscal year 1979, these user revenues totaled \$1,133,000 and accounted for 35 percent of the operating costs of the exchange. As a step toward the transfer of the exchange's operations to the Department of Commerce, the appropriation for support of the exchange will be made to this department in fiscal year 1980, rather than to the Smithsonian. To assist in the transition, the Institution will continue to provide administrative and fiscal services.

Reading is Fundamental, Inc. (RIF), associated with the Institution since 1968, is an independent, separately incorporated entity dedicated to the improvement of reading abilities in children. Primary support is derived from private contributions and a federal contract with the United States Office of Education to operate the Federal Inexpensive Book Distribution Program. Administrative services are provided by the Institution on a contract basis.

During the year, action was taken to close out the books of the Smithsonian Research Foundation, and this corporation will be legally dissolved in the near future.

The Woodrow Wilson International Center for Scholars, the National Gallery of Art, and the John F. Kennedy Center for the Performing Arts, were established by Congress within the Institution but are administered by separate Boards of Trustees. Independent financial reports are presented by each of these organizations. Office space and fiscal and other administrative and support services are provided the Woodrow Wilson International Center for Scholars on a reimbursement basis.

The Friends of the National Zoo (FONZ) is an independent, nonprofit corporation working closely with the National Zoological Park. It operates under contract a number of beneficial concessions

for the National Zoo. FONZ provided concession and rental fees to the zoo amounting to more than \$164,000 during calendar year 1978 (FONZ's fiscal year). In addition, FONZ contributed other important financial and volunteer support for zoo programs. Financial affairs of this organization are disclosed separately elsewhere in *Smithsonian Year 1979*.

Accounting and Auditing

An audit of the nonappropriated trust funds of the Institution is conducted annually by independent public accountants, and their fiscal year 1979 report is contained in the following pages. For over thirty years, this work had been performed in a competent and professional manner by Peat, Marwick, Mitchell & Co. In January 1979, the Board of Regents authorized its Executive Committee to invite audit proposals from other major accounting firms as well. After extensive proposal review and interviews with the nation's eight largest firms, Coopers & Lybrand was selected to perform the Institution's audit for 1979 and the succeeding four years. During the year, the internal audit staff continued their reviews of various operations of the Institution. Additionally, grants and contracts received from federal agencies, as well as their allocated overhead costs, were audited by the Defense Contract Audit Agency.

The Audit and Review Committee of the Regents, under the By-laws of the Institution, has the responsibility for reviewing the Smithsonian's accounting systems and internal financial controls; of facilitating communication between the Board and internal auditors, independent auditors, and auditors of the General Accounting Office; and of reviewing operations of the Institution for compliance with approved programs and policies.

COOPERS & LYBRAND

CERTIFIED PUBLIC ACCOUNTANTS

A MEMBER FIRM OF
COOPERS & LYBRAND (INTERNATIONAL)

To the Board of Regents
Smithsonian Institution

We have examined the balance sheet of the Trust Funds of Smithsonian Institution as of September 30, 1979 and the related statement of financial activity for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. The statements of the Trust Funds of Smithsonian Institution for the year ended September 30, 1978, totals of which are included in the accompanying financial statements for comparative purposes, were examined by other auditors whose report dated December 15, 1978 expressed an unqualified opinion on those statements.

The statements of the Trust Funds of Smithsonian Institution do not include the accounts of the National Gallery of Art, the John F. Kennedy Center for the Performing Arts or other departments, bureaus and programs administered by the Smithsonian Institution under federal appropriations as detailed in Note 2 to the financial statements.

In our opinion, the financial statements for the year ended September 30, 1979, referred to above, present fairly the financial position of the Trust Funds of Smithsonian Institution as of September 30, 1979, and the results of operations and changes in fund balances for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

COOPERS & LYBRAND

1800 M Street, N.W.
Washington, D.C.
November 27, 1979

SMITHSONIAN INSTITUTION—TRUST FUNDS

Balance Sheet

September 30, 1979

(with comparative totals for September 30, 1978)

	Current funds	Endowment and similar funds	Plant funds	Total, all funds	Totals, 1978
ASSETS:					
Cash	\$ 1,067,242	\$ 62,160	\$ —	\$ 1,129,402	\$ 2,850,678
Investments (Notes 3 and 5)	21,192,559	57,935,425	—	79,127,984	70,986,935
Receivables (Note 4)	9,833,100	40,308	—	9,873,408	8,602,476
Interfund receivables	1,863,862	441,915	2,002,797	4,308,574	2,353,786
Merchandise inventory (Note 1)	4,505,523	—	—	4,505,523	3,950,770
Prepaid and deferred expense (Note 1)	6,414,963	—	—	6,414,963	5,264,020
Property and equipment (Notes 1 and 6)	1,283,732	—	11,920,035	13,203,767	11,977,248
	<u>\$46,160,981</u>	<u>\$58,479,808</u>	<u>\$13,922,832</u>	<u>\$118,563,621</u>	<u>\$105,985,913</u>
LIABILITIES:					
Accounts payable and accrued expenses	\$ 5,427,060	\$ —	\$ 229,778	\$ 5,656,838	\$ 3,970,730
Deposits held in custody for other organizations (Note 2) ..	1,745,609	—	—	1,745,609	1,183,626
Interfund payables	4,308,574	—	—	4,308,574	2,353,786
Deferred revenue (Note 1)	13,247,924	—	—	13,247,924	14,439,120
Total liabilities	<u>24,729,167</u>	<u>—</u>	<u>229,778</u>	<u>24,958,945</u>	<u>21,947,262</u>
FUND BALANCES (Note 1):					
Current:					
Unrestricted general purpose	4,964,511	—	—	4,964,511	4,932,516
Special purpose	11,567,125	—	—	11,567,125	9,603,694
Restricted	4,900,178	—	—	4,900,178	4,539,911
Endowment and similar funds (Note 5)	—	58,479,808	—	58,479,808	53,803,473
Plant funds (Note 6)	—	—	13,693,054	13,693,054	11,159,057
Total fund balances	<u>21,431,814</u>	<u>58,479,808</u>	<u>13,693,054</u>	<u>93,604,676</u>	<u>84,038,651</u>
	<u>\$46,160,981</u>	<u>\$58,479,808</u>	<u>\$13,922,832</u>	<u>\$118,563,621</u>	<u>\$105,985,913</u>

The accompanying notes are an integral part of the financial statements.

(with comparative totals for the year ended September 30, 1978)

	Current funds										
	Unrestricted						Restricted	Endowment and similar funds	Plant funds	Total, all funds	Totals, 1978
	Total current funds	Total unrestricted funds	General purpose	Auxiliary activities	Special purpose						
REVENUE AND OTHER ADDITIONS:											
Auxiliary activities revenue	\$66,884,616	\$66,884,616	\$ —	\$64,846,017	\$ 2,038,599	\$ —	\$ —	—	—	\$66,884,616	\$54,759,388
Federal grants and contracts	11,411,790	—	—	—	—	11,411,790	—	—	—	11,411,790	11,157,066
Investment income (net of \$278,655 for management and custodian fees)	5,598,435	2,849,787	2,591,658	—	258,129	2,748,648	—	—	—	5,598,435	3,429,901
Gain (loss) on sale of securities	(5,765)	(5,765)	(5,765)	—	—	—	511,866	—	—	506,101	1,334,983
Gifts, bequests and foundation grants	2,457,801	682,979	163,394	475,178	44,407	1,774,822	91,348	5,000	—	2,554,149	4,231,405
Additions to plant fund	—	—	—	—	—	—	—	395,971	—	395,971	404,605
Rentals, fees, commissions and other	1,983,617	1,255,508	638,264	—	617,244	728,109	—	—	—	1,983,617	2,155,641
Total revenue and other additions	88,330,494	71,667,125	3,387,551	65,321,195	2,958,379	16,663,369	603,214	400,971	—	89,334,679	77,472,989
EXPENDITURES AND OTHER DEDUCTIONS:											
Research and educational expenditures	18,375,482	5,534,719	2,389,110	—	3,145,609	12,840,763	—	—	—	18,375,482	15,759,210
Administrative expenditures	6,842,542	4,210,583	1,552,968	2,369,500	288,115	2,631,959	—	—	—	6,842,542	5,675,636
Auxiliary activities expenditures	55,015,797	55,015,797	—	53,751,742	1,264,055	—	—	—	—	55,015,797	41,737,456
Expenditures for acquisition of plant	—	—	—	—	—	—	—	348,921	—	348,921	365,992
Retirement of indebtedness	—	—	—	—	—	—	—	47,049	—	47,049	46,600
Interest on indebtedness	—	—	—	—	—	—	—	9,021	—	9,021	8,241
Total	80,233,821	64,761,099	3,942,078	56,121,242	4,697,779	15,472,722	—	404,991	—	80,638,812	63,593,135
Excess of revenue and other additions over (under) expenditures and other deductions	8,096,673	6,906,026	(554,527)	9,199,953	(1,739,400)	1,190,647	603,214	(4,020)	—	8,695,867	13,879,854
TRANSFERS AMONG FUNDS—											
ADDITIONS (DEDUCTIONS):											
Mandatory principal and interest on notes	(56,070)	(56,070)	(52,535)	—	(3,535)	—	—	56,070	—	—	—
Portion of investment yield appropriated (Note 5) ..	(988,573)	(314,694)	(310,496)	—	(4,198)	(673,879)	988,573	—	—	—	—
Purchase of property and equipment for plant fund	(348,921)	(348,921)	(348,921)	—	—	—	—	348,921	—	—	—
Future plant acquisitions	(1,451,617)	(1,451,617)	(1,451,617)	—	—	(423,331)	—	1,451,617	—	—	—
Income added to endowment principal	(423,331)	—	—	—	—	—	423,331	—	—	—	—
Appropriated as quasi endowment principal	(2,671,217)	(2,671,217)	(2,571,217)	—	(100,000)	10,000	2,671,217	—	—	—	—
Endowment released	10,000	—	—	—	—	—	(10,000)	—	—	—	—
For designated purposes	—	—	(3,481,809)	(396,836)	3,810,564	68,081	—	—	—	—	—
Net increase in auxiliary activities	—	—	8,803,117	(8,803,117)	—	—	—	—	—	—	—
Total transfers among funds	(5,929,729)	(4,910,600)	586,522	(9,199,953)	3,702,831	(1,019,129)	4,073,121	1,856,608	—	—	—
Net increase for the year	2,166,944	1,995,426	31,995	—	1,963,431	171,518	4,676,335	1,852,588	8,695,867	13,879,854	—
Acquisition of Museum of African Art	188,749	—	—	—	—	188,749	—	681,409	870,158	—	—
Fund balances at beginning of year	19,076,121	14,536,210	4,932,516	—	9,603,694	4,539,911	53,803,473	11,159,057	84,038,651	70,158,797	—
Fund balances at end of year	\$21,431,814	\$16,531,636	\$ 4,964,511	\$ —	\$11,567,125	\$ 4,900,178	\$58,479,808	\$13,693,054	\$93,604,676	\$84,038,651	—

The accompanying notes are an integral part of the financial statements.

SMITHSONIAN INSTITUTION—TRUST FUNDS
Notes to Financial Statements

1. Summary of Significant Accounting Policies

Basis of presentation. The financial statements of Smithsonian Institution—Trust Funds (Institution) have been prepared on the accrual basis.

Fund accounting. To ensure observance of limitations and restrictions placed on the use of resources available to the Institution, the accounts of the Institution are maintained in accordance with the principles of fund accounting. This is the procedure by which resources for various purposes are classified for accounting and reporting purposes into funds established according to their nature and purposes. Separate accounts are maintained for each fund; however, in the accompanying financial statements, funds that have similar characteristics have been combined into fund groups. Accordingly, all financial transactions have been recorded and reported by fund group.

The assets, liabilities, and fund balances of the Institution are reported in self-balancing fund groups as follows:

Current funds, which include unrestricted and restricted resources, represent the portion of expendable funds that is available for support of Institution operations. Separate sub-fund groups of current unrestricted funds have been reflected in the financial statements for auxiliary activities (representing primarily the revenue and expenditures of the Smithsonian Associates Program, including the *Smithsonian* magazine, and museum shop sales) and for special purposes (representing internally segregated funds for certain designated purposes). Amounts restricted by the donor for specific purposes are also segregated from other current funds.

Endowment and similar funds include funds that are subject to restrictions of gift instruments requiring in perpetuity that the principal be invested and the income only be used. Also classified as endowment and similar funds are gifts which will allow the expenditure of principal but only under certain specified conditions and quasi-endowment funds. Quasi-endowment funds are funds established by the governing board for the same purposes as endowment funds; however, any portion of such funds may be expended. Restricted quasi-endowment funds represent gifts for restricted purposes where there is no stipulation that the principal be maintained in perpetuity or for a period of time, but the governing board has elected to invest the principal and expend only the income for the purpose stipulated by the donor.

Plant funds represent resources restricted for future plant acquisitions and funds expended for plant.

All gains and losses arising from the sale, collection or other disposition of investments are accounted for in the fund in which the related assets are

recorded. Income from investments is accounted for in a similar manner, except for income derived from investments of endowment and similar funds, which is accounted for in the fund to which it is restricted, or, if unrestricted, as revenue in unrestricted current funds.

Inventories. Inventories are carried at the lower of average cost, computed on a first-in, first-out method, or net realizable value.

Deferred revenue and expense. Revenue from subscriptions to *Smithsonian* magazine is recorded as income over the period of the related subscription, which is one year. Costs related to obtaining subscriptions to *Smithsonian* magazine are charged to income over the period of the subscription.

The Institution recognizes revenue and charges expenses of other auxiliary activities during the period in which the activity is conducted.

Works of art, living or other specimens. In accordance with the practice generally followed by museums, works of art and living or other specimens are not reflected in the accompanying financial statements.

Property and equipment. Capitalized improvements and equipment purchased with Trust Funds and utilized in income-producing activities are capitalized in the current unrestricted fund at cost and are depreciated on a straight-line basis over their estimated useful lives of five to ten years.

Real estate (land and buildings) are recorded in the plant fund at cost, to the extent that restricted or unrestricted funds were expended therefor, or appraised value at date of gift, except for gifts of certain islands in Chesapeake Bay and the Carnegie Mansion, which have been recorded at nominal values. In accordance with the practice of many museums, depreciation on buildings is not recorded.

All other land, buildings, fixtures, and equipment which were principally acquired with federal funds are not reflected in the accompanying financial statements.

Government contracts. The Institution has a number of contracts with the U.S. Government, which primarily provide for cost reimbursement to the Institution. Contract revenue is recognized when billable or received.

Contributed services. A substantial number of unpaid volunteers have made significant contributions of their time in the furtherance of the Institution's programs. The value of this contributed time is not reflected in these statements, since it is not susceptible to objective measurement or valuation.

2. Related Activities

The Trust Funds reflect the receipt and expenditure of funds obtained from private sources, from federal grants and contracts, and from certain business activities related to the operations of the Institution.

Federal appropriations, which are not reflected in the accompanying financial statements, provide major support for the operations and administration of the educational and research programs of the Institution's many museums, art galleries, and other bureaus, as well as for the maintenance and construction of related buildings and facilities. In addition, land, buildings, and other assets acquired with federal funds are not reflected in the accompanying financial statements.

The following federal appropriations were received by the Institution for the fiscal years ended September 30, 1979 and 1978:

	1979	1978
Operating funds	\$100,265,000	\$ 95,250,000
Special foreign currency program	3,700,000	4,000,000
Construction funds	6,575,000	5,250,000
	<u>\$110,540,000</u>	<u>\$104,500,000</u>

The Institution provides fiscal and administrative services to several separately incorporated organizations in which certain officials of the Institution serve on the governing boards. The amounts paid to the Institution by these organizations for the aforementioned services, together with rent for Institution facilities occupied, etc., totaled approximately \$422,000 for the year ended September 30, 1979. The following summarizes the approximate expenditures of these organizations for the fiscal years ended September 30, 1979 and 1978, respectively, as reflected in their individual financial statements and which are not included in the accompanying financial statements of the Institution:

	1979	1978
Smithsonian Research Foundation	\$ —	\$ 120,000
Smithsonian Science Information Exchange	\$3,293,000	\$2,355,000
Reading Is Fundamental, Inc.	\$4,042,000	\$2,260,000
Woodrow Wilson International Center for Scholars—Trust Funds	\$2,306,000	\$2,079,000

For the years ended September 30, 1979 and 1978, the Smithsonian Research Foundation did not receive federal grants, and the corporate structure will be dissolved in fiscal year 1980. The Institution is working with the U.S. Department of Commerce to effect a transfer of the Smithsonian Science Information Exchange operations to the U.S. Department of Commerce on October 1, 1980; until that date the Institution will continue to provide fiscal and administrative services.

3. Investments

Investments are recorded at cost, if purchased, or fair market value at date of acquisition, if acquired by gift. At September 30, 1979, investments are composed of the following:

	Carrying value	Market value
Current funds:		
Certificates of deposit	\$ 4,000,000	\$ 4,000,000
Commercial paper	1,974,858	2,000,000
Overnight money market account	1,200,000	1,200,000
U.S. Government and quasi-government obligations	13,789,494	13,932,400
Common stock	171,860	92,317
Preferred stock	56,347	45,797
	<u>21,192,559</u>	<u>21,270,514</u>

Endowment and similar funds:		
Loan to U.S. Treasury	\$ 1,000,000	\$ 1,000,000
Commercial paper	4,063,235	4,075,000
U.S. Government and quasi-government obligations	5,469,632	5,364,809
Corporate bonds	10,202,227	10,226,965
Common stock	36,491,266	44,685,401
Preferred stock	709,065	699,500
	<u>57,935,425</u>	<u>66,051,675</u>
	<u>\$79,127,984</u>	<u>\$87,322,189</u>

Substantially all of the investments of the endowment and similar funds are pooled on a market value basis (consolidated fund) with each individual fund subscribing to or disposing of units on the basis of the value per unit at market value at the beginning of the month within which the transaction takes place. Of the total units, each having a market value of \$119.91, 346,315 units were owned by endowment and 200,396 units by quasi-endowment at September 30, 1979.

The following tabulation summarizes changes in relationships between cost and market values of the pooled investments:

	<u>Market</u>	<u>Cost</u>	<u>Net gains</u>	<u>Market value per unit</u>
End of year	\$65,555,748	\$57,426,159	\$8,129,589	\$119.91
Beginning of year	\$56,831,475	\$52,548,845	4,282,630	110.22
Unrealized net gains for year			3,846,959	—
Realized net gains for year			511,866	—
Total net gains for year			<u>\$4,358,825</u>	<u>\$ 9.69</u>

4. Receivables

Receivables at September 30, 1979 and 1978, included the following:

<i>Current funds</i>	<u>1979</u>	<u>1978</u>
Accounts receivable, auxiliary activities; net of allowance for doubtful accounts of \$258,000 in 1979 and \$262,000 in 1978	\$7,881,683	\$6,031,875
Unbilled costs and fees from grants and contracts ..	658,318	1,316,166
Interest and dividends receivable	949,571	716,048
Other	343,528	496,017
	<u>9,833,100</u>	<u>8,560,106</u>
<i>Endowment and similar funds</i>		
Notes receivable	<u>40,308</u>	<u>42,370</u>
Total, all funds	<u>\$9,873,408</u>	<u>\$8,602,476</u>

5. Endowment and Similar Funds

Endowment and similar funds at September 30, 1979 are summarized as follows:

Endowment funds, income available for:	
Restricted purposes	\$34,349,830
Unrestricted purposes	953,185
	<u>35,303,015</u>
Quasi-endowment funds, principal and income available for:	
Restricted purposes	3,597,203
Unrestricted purposes	19,579,590
	<u>23,176,793</u>
Total endowment and similar funds	<u>\$58,479,808</u>

The Institution utilizes the "total return" approach to investment management of endowment funds and quasi-endowment funds. Under this approach, the total investment return is considered to include realized and unrealized gains and losses, in addition to interest and dividends. An amount equal to the difference between interest and dividends earned during the year and the amount computed under the total return formula is transferred to or from the current funds.

In applying this approach, it is the Institution's policy to provide, as being available for current expenditures, an amount taking into consideration such factors as, but not limited to: (1) 4½% of the five-year average of the market value of each fund (adjusted for gifts and transfers during this period), (2) current dividend and interest yield, (3) support needs for bureaus and scientists, and (4) inflationary factors as measured by the Consumer Price Index; however, where the market value of the assets of any endowment fund is less than 110% of the historic dollar value (value of gifts at date of donation), the amount provided is limited to only interest and dividends received. The total return factor for 1979 was \$4.74 per unit of fund participation. The total return applied for 1979 was \$2,516,098.

6. Property and Equipment

Property and equipment is comprised of the following:

	September 30,	
	1979	1978
<i>Current funds</i>		
Capital improvements	\$ 1,342,277	\$ 1,317,036
Equipment	602,777	446,086
Leasehold improvements	145,229	98,126
Less accumulated depreciation		
amortization	806,551	585,349
	<u>1,283,732</u>	<u>1,275,899</u>
<i>Plant funds</i>		
Land and buildings	11,920,035	10,701,349
Total, all funds	<u>\$13,203,767</u>	<u>\$11,977,248</u>

Depreciation and amortization expense reflected in expenditures of the current funds for 1979 and 1978 was \$221,202, and \$181,942, respectively.

The balance of the plant fund at September 30, 1979 includes \$1,997,525 of unexpended plant funds.

7. Pension Plan

The Institution has a retirement plan in which substantially all Trust Funds' employees are eligible to participate. Under the plan, both the Institution and employees contribute stipulated percentages of salary which are used to purchase individual annuities, the rights to which are immediately vested with the employees. The cost of the plan for the year ended September 30, 1979 was \$1,746,293. It is the policy of the Institution to fund plan costs accrued currently. There are no unfunded prior service costs under the plan.

8. Income Taxes

The Institution is exempt from income taxation under the provisions of Section 501(c)(3) of the Internal Revenue Code. Organizations described in that section are taxable only on their unrelated business income. The Internal Revenue Service is presently considering a Request for Ruling filed by the Institution pertaining to the proper interpretation of the current regulations concerning the method of calculating certain unrelated business income. If the Institution's interpretation is approved, no tax would be imposed on this income. It is the opinion of the Institution that it is also exempt from taxation as an instrumentality of the United States as defined in Section 501(c)(1) of the Code. Organizations described in that section are exempt from all income taxation. It is the intent of the Institution to seek such dual status. Management believes that any income taxes required as a result of settlement of these matters would not have a material effect upon the financial position of the Institution.

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